

AERO DESIGN LTD.

FMS497.92

## BELL 206B

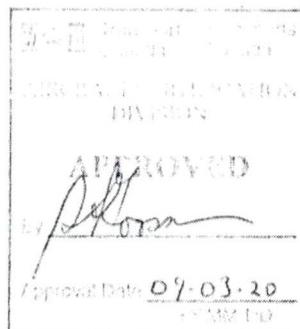
### ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of EXTERNAL ATTACHMENT PROVISIONS

Supplemental Type Certificate No. SH09-5

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Bell 206B when fitted with External Attachment Provisions. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



## I LIMITATIONS

1. Attachment of any equipment to the External Attachment Provisions requires Transport Canada Approval.

## II NORMAL PROCEDURES

1. No change from basic Approved Flight Manual.

## III EMERGENCY PROCEDURES

1. No change from basic Approved Flight Manual.

## IV PERFORMANCE

1. No change from basic Approved Flight Manual.

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## BELL 206B

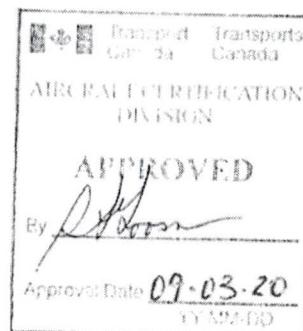
**ROTORCRAFT FLIGHT MANUAL SUPPLEMENT  
for the  
INSTALLATION of the AERO DESIGN  
QUICK RELEASE CARGO BASKET**

Supplemental Type Certificate No. SH09-5

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Bell 206B when fitted with the Quick Release Cargo Basket Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



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## Record of Revisions

## I LIMITATIONS

1. The maximum load in the AERO Design Ltd. Quick Release Cargo Basket is 200 lb.
2. Flight operations limited to VFR conditions with AERO Design Ltd. Cargo Basket installed.
3.  $V_{NE}$  is not changed from the basic rotorcraft.

## II NORMAL PROCEDURES

1. Pre-flight inspections:
  - a) Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
  - b) Ensure that the lid of cargo basket is closed and secured.
  - c) Ensure the basket is locked in position on the beams. Pull up on the forward and aft end of the basket to check.

### CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

## III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

### CAUTION:

The rotorcraft glide angle is steeper than that of the basic helicopter when the AERO Design Ltd. Cargo Basket is installed.

## IV PERFORMANCE

Cruise performance and range will be reduced by approximately 6 percent with the cargo basket installed.

Climb performance will be reduced by up to 200 fpm.

## V WEIGHT AND BALANCE

1. The following weight and balance is for the short quick release cargo basket configuration, installed in accordance with drawing 80201.

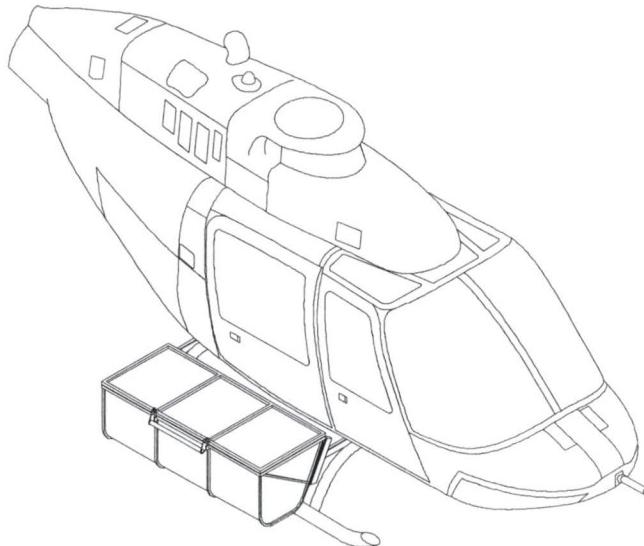


Figure 1 – Short Quick Release Cargo Basket Configuration

Short Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	35.0 lb	102.8 in	3 598 in*lb	42.4 in	1 484 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	102.8 in	20 560 in*lb	42.4 in	8480 in*lb

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2. The following weight and balance is for the medium quick release cargo basket configuration, installed in accordance with drawing 80301.

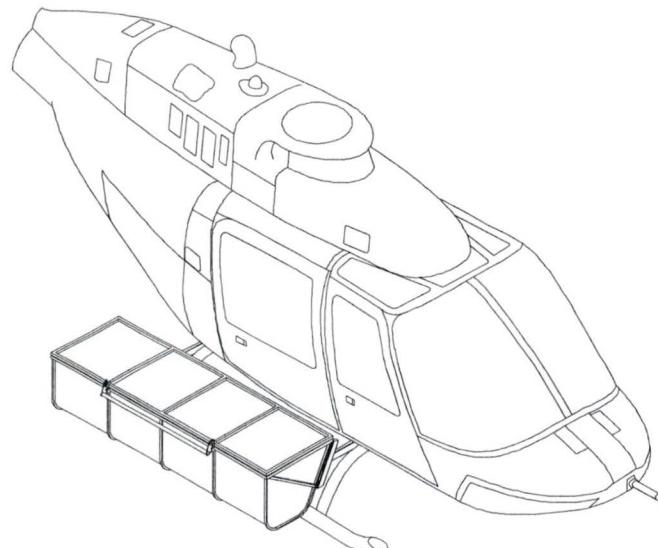


Figure 2 – Medium Quick Release Cargo Basket Configuration

Medium Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	45.0 lb	111.9 in	5 036 in*lb	42.4 in	1 908 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	111.9 in	22 380 in*lb	42.4 in	8480 in*lb

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3. The following weight and balance is for the long quick release cargo basket configuration, installed in accordance with drawing 81101.

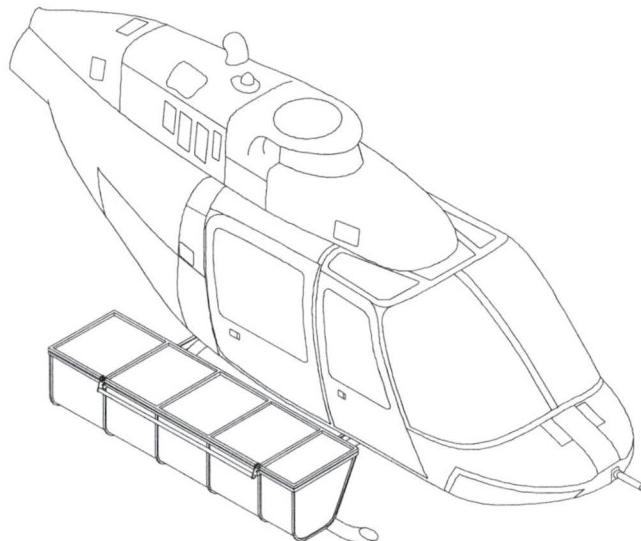


Figure 3 – Long Quick Release Cargo Basket Configuration

Long Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	50.0 lb	105.9 in	5 925 in*lb	42.4 in	2 120 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	105.9 in	21 180 in*lb	42.4 in	8 480 in*lb

<sup>1</sup> Weight and balance is for Cargo Basket only. Mounting beams and attachment provisions are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

<sup>2</sup> Longitudinal and Lateral moment arms are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

**CAUTION:**

It is possible to exceed lateral CG limits in some configurations.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The basket is installed in accordance with drawing 81101. The beams are installed in accordance with drawing 49702. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and weight and balance amendment is required when basket is installed or removed.

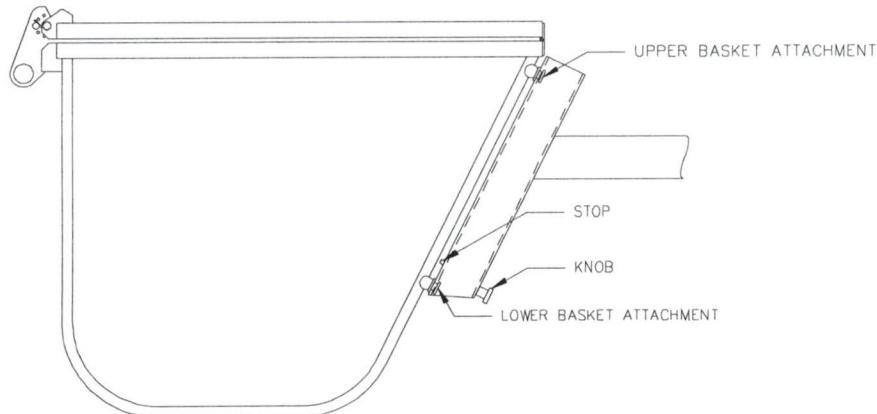


Figure 4 – Basket Attachment

1. Installation - Refer to Figure 4.
  1. Set basket upper attachment into slot on forward and aft beams.
  2. At forward end of basket, lift until lower attachment fitting hits stop over keyway. Push fitting into keyway and slide basket down until locked. Repeat for aft end.
2. Removal - Refer to Figure 4.
  1. Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in slot in beam. Repeat for aft end.
  2. Lift basket until upper attachments are out of slots on beams and remove basket from helicopter.



## Department of Transport

# Supplemental Type Certificate

This approval is issued to:

Aero Design Ltd.  
2013 39th Avenue North East  
Calgary, Alberta  
Canada T2E 6R7

Number: SH09-5

Issue No.: 2

Approval Date: March 20, 2009

Issue Date: December 03, 2010

Responsible Office:

Prairie and Northern

Aircraft/Engine Type or Model:

BELL 206B

Canadian Type Certificate or Equivalent:

BELL 206B H-92

Description of Type Design Change:

Installation of External Attachment Provisions; Quick Release Mounting Provisions; Cargo Basket; Cabin Step; Auxiliary Step

Installation/Operating Data,

Required Equipment and Limitations:

**Configuration A - External Attachment Provisions Only:**

Installation of External Attachment Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL497-1, Revision 0, dated 22 December 2008, or later approved revision.

Transport Canada approved, AERO Design Ltd. Flight Manual Supplement FMS497.92, Revision 0, dated 22 December 2008, or later approved revision is required with this installation.

Transport Canada accepted, AERO Design Ltd. Instructions for Continued Airworthiness ICA497.90, Revision 0, dated 18 December 2008, or later accepted revision is required with this installation.

External Attachment Provisions installed in accordance with DCL497-1 may remain installed if any other configuration is removed.

...See Continuation Sheet

**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated **will not** adversely affect the airworthiness of the modified product.



D.S. Austen  
For Minister of Transport

Canada

United States of America  
Department of Transportation -- Federal Aviation Administration

# Supplemental Type Certificate IMPORT

Number SR02721NY

This certificate is issued to Aero Design Ltd.  
2013-39<sup>th</sup> Avenue NE  
Calgary, Alberta, T2E 6R7  
Canada

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 6 of the Civil Air Regulations.

Original Product -- Type Certificate Number: H2SW

Name: Bell

Model: 206B

Description of Type Design Change:

The installation of External Attachment Provisions, Quick Release Mounting Provisions, and Cargo Basket for:

- 1 Configuration A-External Attachment Provisions Only: Installation of External Attachment Provisions to be done in accordance with Aero Design Ltd. Document Control List, DCL497-1, Revision 0 dated December 22, 2008, or later Transport Canada approved revision.

(Description of Type Design Change continued on page 2 of 2)

Limitations and Conditions:

1 Configuration A:

- a. Operation must be in accordance with Aero Design Ltd. Flight Manual Supplement, FMS497.92 Revision 0 dated December 22, 2008, Transport Canada Approved March 20, 2009, or later Transport Canada approved revision.
- b. Instructions for Continued Airworthiness described in Aero Design Ltd. Instructions for Continued Airworthiness ICA497.90, Revision 0 dated December 18, 2008, Transport Canada accepted March 20, 2009, or later Transport Canada accepted revisions are required for this installation.
- c. External Attachment Provisions installed in accordance with DCL497-1 may remain installed if any other configuration is removed.

(Limitations and Conditions continued on page 2 of 2)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: April 21, 2009

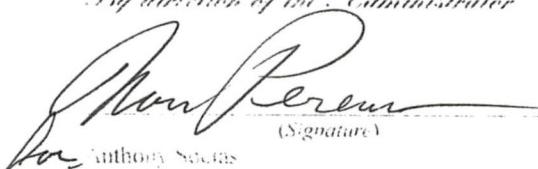
Date revised:

Date of issuance: August 10, 2009

Date amended:



By direction of the Administrator

  
Anthony Socas  
Manager  
New York Aircraft Certification Office

(Title)

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
80301	Quick Release Cargo Basket Installation	0
ICA803.90	Instructions for Continued Airworthiness	0
FMS803.91	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL803-11	Document Control List for Quick Release Cargo Basket	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>Transport Canada Transports Canada  AIRCRAFT CERTIFICATION DIVISION <b>APPROVED</b> By <i>[Signature]</i> App'l No. <u>SH09-5</u> App'l Date <u>09-03-20</u> Issue No. <u>1</u> Issue Date <u>09-03-20</u> YY - MM - DD</p>	ORIGINAL DATE: 22 December 2008 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333
		<b>Bell 206B</b> <b>Quick Release Cargo Basket</b> <b>Installation (Medium)</b>
	<b>DCL803-1</b>	Rev. <b>0</b>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
49702	Quick Release Mounting Provisions Installation	0
ICA497.91	Instructions for Continued Airworthiness	0
<b>FABRICATION DOCUMENTS</b>		
DCL497-12	Document Control List for Quick Release Mounting Provisions Fabrication	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>By <u>John Doe</u></p> <p>Appr'l No. <u>SH09-5</u></p> <p>Appr'l Date <u>09-03-20</u></p> <p>Issue No. <u>1</u></p> <p>Issue Date <u>09-03-20</u></p> <p>YY-MM-DD</p>	ORIGINAL DATE: 22 December 2008 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>  <b>Bell 206B</b> <b>Quick Release Mounting</b> <b>Provisions Installation</b>
		Rev.
	<b>DCL497-2</b>	<b>0</b>

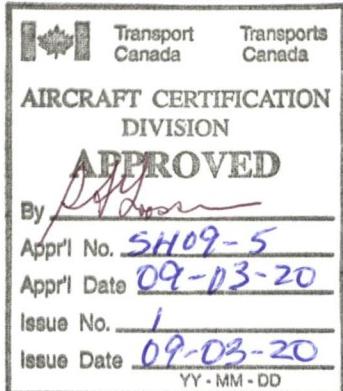
# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
49701	External Attachment Provisions Installation	0
49703	External Attachment Provisions Installation (Alternate)	0
ICA497.90	Instructions for Continued Airworthiness	0
FMS497.92	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL497-11	Document Control List for External Attachment Provisions Fabrication	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>Transport Canada Transports Canada <b>AIRCRAFT CERTIFICATION DIVISION</b> <b>APPROVED</b> By [Signature] App'l No. <u>SH09-5</u> App'l Date <u>09-03-20</u> Issue No. <u>1</u> Issue Date <u>09-03-20</u> YY - MM - DD</p>	ORIGINAL DATE: 22 December 2008 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>  <b>Bell 206B</b> <b>External Attachment</b> <b>Provisions Installation</b>
<b>DCL497-1</b>		Rev. <b>0</b>

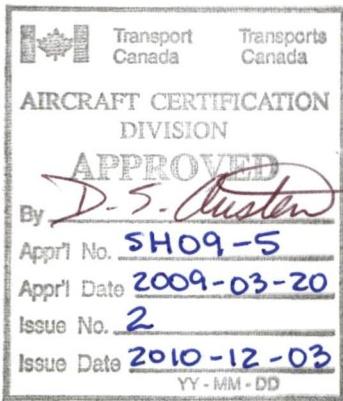
# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
80201	Quick Release Cargo Basket Installation	0
ICA803.90	Instructions for Continued Airworthiness	0
FMS803.91	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL802-11	Document Control List for Quick Release Cargo Basket	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>Transport Canada Transports Canada</p> <p>AIRCRAFT CERTIFICATION DIVISION</p> <p><b>APPROVED</b></p> <p>By <u>John Doe</u></p> <p>App'l No. <u>SH09-5</u></p> <p>App'l Date <u>09-03-20</u></p> <p>Issue No. <u>1</u></p> <p>Issue Date <u>09-03-20</u> YY - MM - DD</p>	ORIGINAL DATE: 22 December 2008 REVISION DATE:  SHEET 1 OF 1	<p><b>AERO DESIGN LTD.</b>          2013 – 39<sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7          Ph. (403) 250-8027          Fax. (403) 250-8333</p> <p><b>Bell 206B</b>  <b>Quick Release Cargo Basket</b>  <b>Installation (Short)</b></p> <p><b>DCL802-1</b></p> <p>Rev. <b>0</b></p>

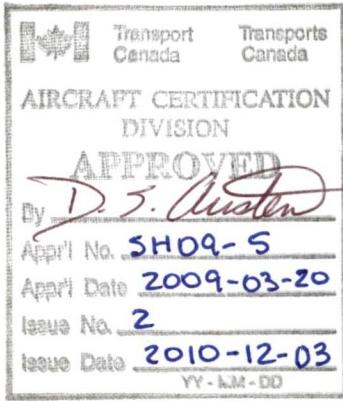
# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
81101	Quick Release Cargo Basket Installation	0
ICA803.90	Instructions for Continued Airworthiness	0
FMS803.91	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL811-11	Document Control List for Quick Release Cargo Basket	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>Transport Canada Transports Canada</p> <p>AIRCRAFT CERTIFICATION DIVISION</p> <p><b>APPROVED</b></p> <p>By <i>[Signature]</i></p> <p>App'l No. <u>SH09-5</u></p> <p>App'l Date <u>09-03-20</u></p> <p>Issue No. <u>1</u></p> <p>Issue Date <u>09-03-20</u></p> <p>YY - MM - DD</p>	ORIGINAL DATE: 22 December 2008 REVISION DATE:  SHEET 1 OF 1	<p><b>AERO DESIGN LTD.</b></p> <p>2013 – 39<sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7</p> <p>Ph. (403) 250-8027</p> <p>Fax. (403) 250-8333</p> <p><b>Bell 206B</b>  <b>Quick Release Cargo Basket</b>  <b>Installation (Long)</b></p> <p>Rev.</p> <p><b>DCL811-1</b></p> <p><b>0</b></p>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
87801	Quick Release Step Installation	0
FMS878.90	Flight Manual Supplement	0
ICA878.91	Instructions for Continued Airworthiness	0
<b>FABRICATION DOCUMENTS</b>		
DCL878-11	Document Control List for Quick Release Step Fabrication	0
<b>APPROVAL:</b>		
 <p>Transport Canada AIRCRAFT CERTIFICATION DIVISION <b>APPROVED</b> By <i>D. S. Austin</i> App'l No. <u>SH09-5</u> App'l Date <u>2009-03-20</u> Issue No. <u>2</u> Issue Date <u>2010-12-03</u> YY - MM - DD</p>	ORIGINAL DATE: 18 February 2010 REVISION DATE:  SHEET 1 OF 1	<p style="text-align: center;"><b>AERO DESIGN LTD.</b>          2013 – 39<sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7          Ph. (403) 250-8027          Fax. (403) 250-8333  <a href="http://www.aerodesign.ca">www.aerodesign.ca</a></p> <p style="text-align: center;"><b>Bell 206B</b>  <b>Quick Release Step</b>  <b>Installation</b></p> <p style="text-align: right;">Rev. <b>0</b></p> <p style="text-align: center;"><b>DCL878-1</b></p>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
62302	Auxiliary Step Installation	1
ICA 623.91	Instructions for Continued Airworthiness	1
<b>FABRICATION DOCUMENTS</b>		
62340	Step Assembly	0
<b>ENGINEERING DOCUMENTS</b>		
ER623.01	Engineering Report	1
<b>APPROVAL:</b>		
 <p>The stamp is rectangular with a double-line border. Inside, it says "Transport Canada" in English and "Transports Canada" in French. Below that, it says "AIRCRAFT CERTIFICATION DIVISION". There is a handwritten signature over the word "APPROVED". Below the signature, it says "By D. S. Austin". Underneath, it says "App'l No. SH09-5" and "App'l Date 2009-03-20". At the bottom, it says "Issue No. 2" and "Issue Date 2010-12-03".</p>	ORIGINAL DATE: 13 January, 2005  REVISION DATE: 30 November 2010	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE Calgary, Alberta T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333
	SHEET 1 OF 1	<b>Bell 206B, 206L Series, 407 Auxiliary Step Installation</b>
		Rev.
	<b>DCL623</b>	<b>4</b>

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## BELL 206B

### **ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET**

Supplemental Type Certificate No. SH09-5

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Section V and any subsequent sections if present are Unapproved and are provided for information only.

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## Record of Revisions

## I LIMITATIONS

1. The maximum load in the AERO Design Ltd. Quick Release Cargo Basket is 200 lb.
2. Flight operations limited to VFR conditions with AERO Design Ltd. Cargo Basket installed.
3.  $V_{NE}$  is not changed from the basic rotorcraft.

## II NORMAL PROCEDURES

### 1. Pre-flight inspections:

- a) Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
- b) Ensure that the lid of cargo basket is closed and secured.
- c) Ensure the basket is locked in position on the beams. Pull up on the forward and aft end of the basket to check.

### CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

## III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

### CAUTION:

The rotorcraft glide angle is steeper than that of the basic helicopter when the AERO Design Ltd. Cargo Basket is installed.

## IV PERFORMANCE

Cruise performance and range will be reduced by approximately 6 percent with the cargo basket installed.

Climb performance will be reduced by up to 200 fpm.

## V WEIGHT AND BALANCE

1. The following weight and balance is for the short quick release cargo basket configuration, installed in accordance with drawing 80201.

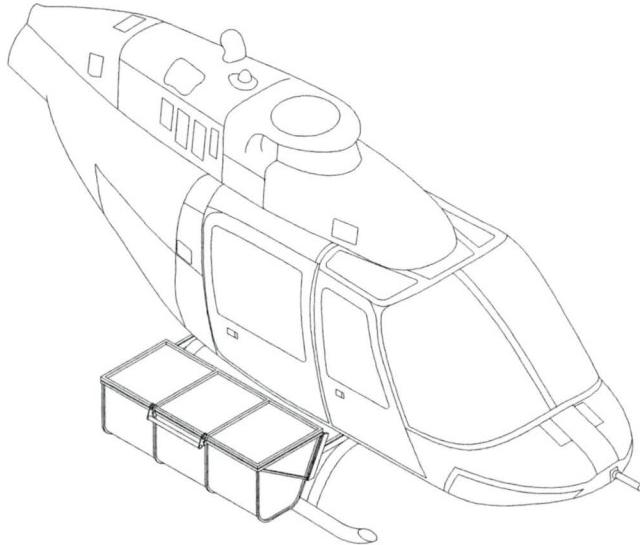


Figure 1 – Short Quick Release Cargo Basket Configuration

Short Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	35.0 lb	102.8 in	3 598 in*lb	42.4 in	1 484 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	102.8 in	20 560 in*lb	42.4 in	8480 in*lb

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FMS803.91

2. The following weight and balance is for the medium quick release cargo basket configuration, installed in accordance with drawing 80301.

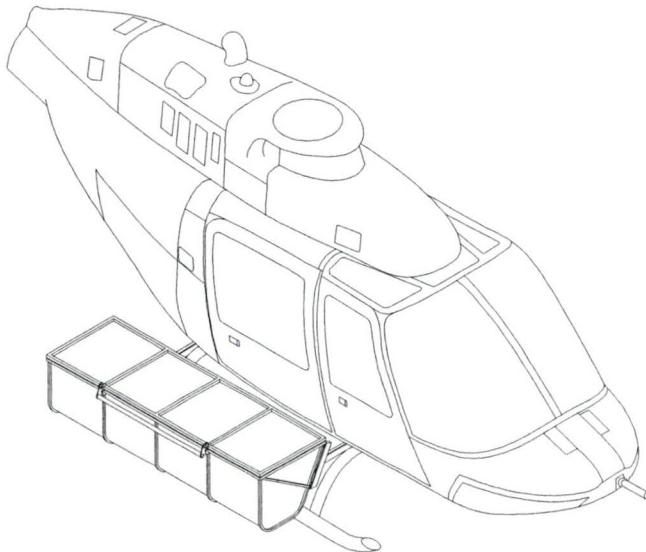


Figure 2 – Medium Quick Release Cargo Basket Configuration

Medium Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	45.0 lb	111.9 in	5 036 in*lb	42.4 in	1 908 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	111.9 in	22 380 in*lb	42.4 in	8480 in*lb

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3. The following weight and balance is for the long quick release cargo basket configuration, installed in accordance with drawing 81101.

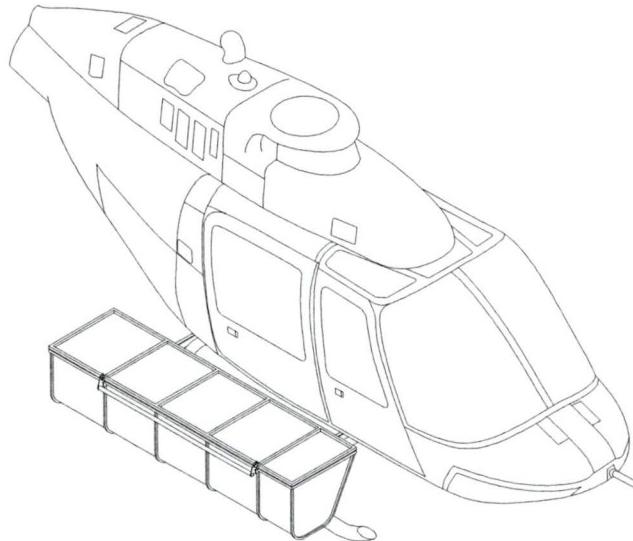


Figure 3 – Long Quick Release Cargo Basket Configuration

Long Quick Release Cargo Basket Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Cargo Basket Only <sup>1</sup>	50.0 lb	105.9 in	5 925 in*lb	42.4 in	2 120 in*lb
Cargo <sup>2</sup> (MAX)	200 lb	105.9 in	21 180 in*lb	42.4 in	8 480 in*lb

<sup>1</sup> Weight and balance is for Cargo Basket only. Mounting beams and attachment provisions are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

<sup>2</sup> Longitudinal and Lateral moment arms are given only for the center of the Cargo Basket. Due to the length of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

**CAUTION:**

It is possible to exceed lateral CG limits in some configurations.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The basket is installed in accordance with drawing 81101. The beams are installed in accordance with drawing 49702. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and weight and balance amendment is required when basket is installed or removed.

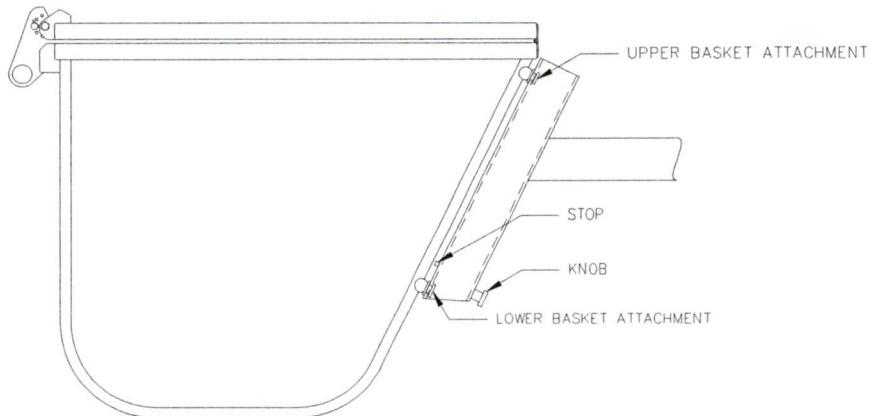


Figure 4 – Basket Attachment

1. Installation - Refer to Figure 4.
  1. Set basket upper attachment into slot on forward and aft beams.
  2. At forward end of basket, lift until lower attachment fitting hits stop over keyway. Push fitting into keyway and slide basket down until locked. Repeat for aft end.
2. Removal - Refer to Figure 4.
  1. Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in slot in beam. Repeat for aft end.
  2. Lift basket until upper attachments are out of slots on beams and remove basket from helicopter.

AERO DESIGN LTD.

FMS497.92

## BELL 206B

### ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of EXTERNAL ATTACHMENT PROVISIONS

Supplemental Type Certificate No. SH09-5

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Bell 206B when fitted with External Attachment Provisions. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



Revision 0  
22 December, 2008

Page 1 of 2  
TRANSPORT CANADA APPROVED

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## I LIMITATIONS

1. Attachment of any equipment to the External Attachment Provisions requires Transport Canada Approval.

## II NORMAL PROCEDURES

1. No change from basic Approved Flight Manual.

## III EMERGENCY PROCEDURES

1. No change from basic Approved Flight Manual.

## IV PERFORMANCE

1. No change from basic Approved Flight Manual.

AERO DESIGN LTD.

FMS878.90

## BELL 206B

**ROTORCRAFT FLIGHT MANUAL SUPPLEMENT**  
for the  
**INSTALLATION of the AERO DESIGN**  
**QUICK RELEASE STEP**

Supplemental Type Certificate No. SH09-5

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Bell 206B when fitted with the Quick Release Step Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



Revision 0  
18 February 2010

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## Record of Revisions

AERO DESIGN LTD.

FMS878.90

## I LIMITATIONS

1. The Quick Release Step may be installed when the Quick Release Cargo Basket, installed in accordance with TCCA STC SH09-5, is removed.

## II NORMAL PROCEDURES

1. Pre-flight inspections:
  - a) Ensure the step is locked in position on the beams. Pull up on the forward and aft end of the step to check.

## III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

## IV PERFORMANCE

No change from basic Approved Flight Manual.

DEC 03 2010

Revision 0  
18 February 2010

Page 3

TRANSPORT CANADA APPROVED

## V WEIGHT AND BALANCE

1. The following weight and balance is for the quick release step configuration, installed in accordance with drawing 87801.

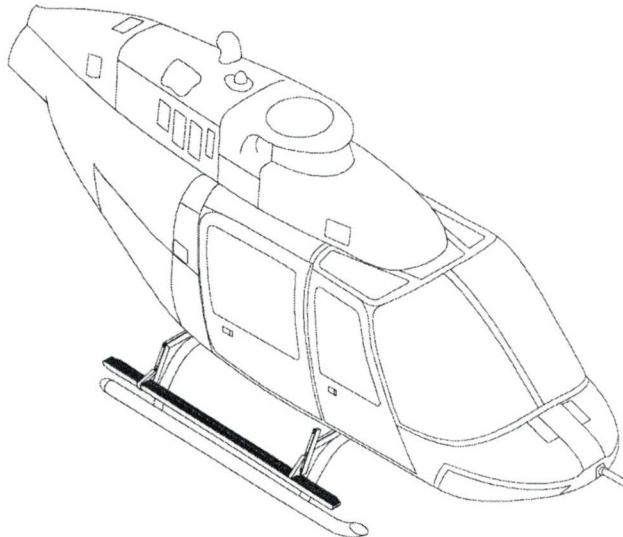


Figure 1 – Quick Release Step Configuration

Quick Release Step Configuration

Item	Weight	Longitudinal		Lateral	
		Arm	Moment	Arm	Moment
Step Only <sup>1</sup>	9.0 lb 4.1 kg	91.3 in 2319 mm	821.7 in*lb 9 438 mm*kg	35.4 in 899 mm	318.6 in*lb 3 660 mm*kg

<sup>1</sup> Weight and balance is for Step only. Mounting beams and attachment provisions are not included since they should have been included in the basic rotorcraft weight and balance at time of initial installation.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The Quick Release Mounting Provisions are installed in accordance with drawing 49702. The Quick Release Step is installed in accordance with drawing 87801. Removal of the step leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of step and which weight and balance amendment is in effect is required.

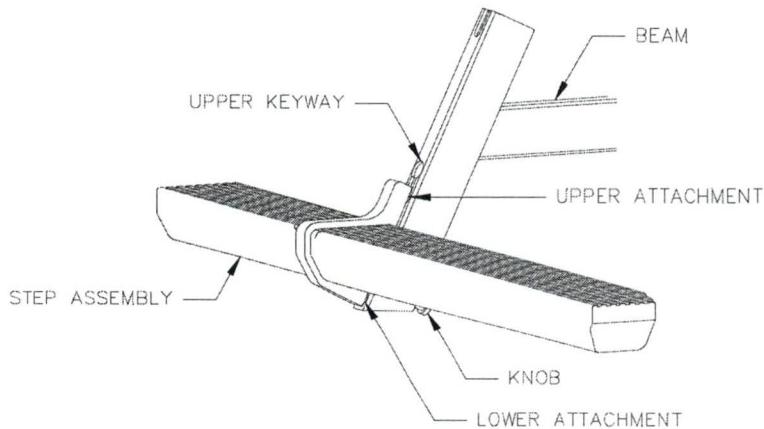


Figure 2 – Step Attachment

1. Step Installation – Refer to Figure 2.
  1. Set upper attachment into upper keyway on forward and aft beams.
  2. Lift step until lower attachment hits stop over keyway. Push fitting into keyway and slide down until locked.
2. Step Removal – Refer to Figure 2.
  1. Pull knob at bottom end of forward beam and lift step until the lower attachment fitting is free of keyway. Keep upper attachment in keyway in beam. Repeat for aft end.
  2. Lift step until upper attachments are out of keyways in beams and remove from helicopter.

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## **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

### **ICA 497.91**

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### **QUICK RELEASE MOUNTING PROVISIONS**

#### **Preface**

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Mounting Provisions installed in accordance with AERO Design Ltd. Document Control List DCL497-2, Revision 0, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 22 December, 2008

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Engineering Consultants

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**RECORD OF REVISIONS**

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0			Original Issue

**LIST OF EFFECTIVE PAGES**

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Mounting Provisions as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness
- LH - Left Hand
- RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

## 0-5 GENERAL DESCRIPTION

The Quick Release Mounting Provisions are a pair of beams mounted to External Attachment Provisions under the helicopter. The External Attachment Provisions are replacement landing gear fittings that incorporate a barrel nut for mounting the beams.

The beams are steel tubing which stick out from the side of the helicopter, and have a down tube with keyways in the outboard face to mount various pieces of equipment such as cargo baskets and flight steps. The quick release mechanism is built into the down tube.

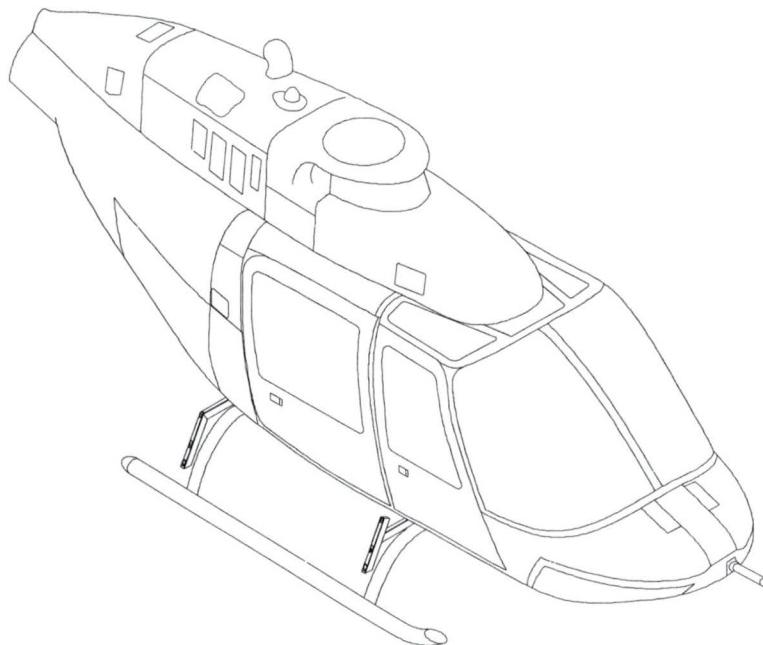


Figure 1 – Quick Release Mounting Provisions Installation

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Mounting Provisions.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

#### *300 Hour or Annual Inspection*

##### 1. Inspection Area: Beams

- a) Visually inspect beams for cracks, corrosion or other damage.
- b) Visually inspect bolts attaching beams to external attachment provisions for security and damage.

#### *Special Inspections*

Following a hard landing inspect the Quick Release Mounting Provisions installation in accordance with the 300 hour or annual inspection listed above.

## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on the top or bottom face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour.
- b) Nicks and/or gouges on the side faces up to 0.060" deep and 0.125" wide may be dressed out to a smooth contour.
- c) Critical keyway dimensions on the down tubes are shown in Figure 2. Attempt to insert 27/64 drill shank into bottom end of slots. If drill can be inserted, slot is worn beyond limit.

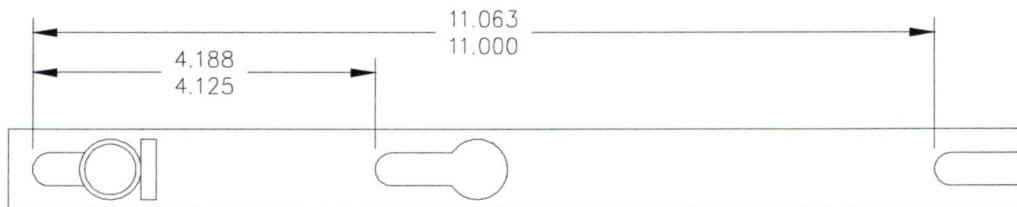


Figure 2 – Critical Keyway Dimensions

- d) Touch up with polyurethane paint as required following repairs.

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Beams

The beams are supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

### 25-1 BEAMS INSTALLATION

Refer to Figure 4.

1. External Attachment Provisions installed in accordance with drawing 49701 or 49703 are required prior to installing the Beams.
2. Locate 49730-01 Forward Beam on aft side of Forward Landing Gear Fittings. Install two AN6-20A Bolt and AN960-616 Washer into Barrel Nuts in Fittings. Torque AN6 bolts to 90-110 in-lbs.
3. Locate 49731-01 Aft Beam on aft side of Aft Saddle Fittings. Install two AN6-20A Bolt and AN960-616 Washer into Barrel Nuts in Fittings. Torque AN6 bolts to 90-110 in-lbs.

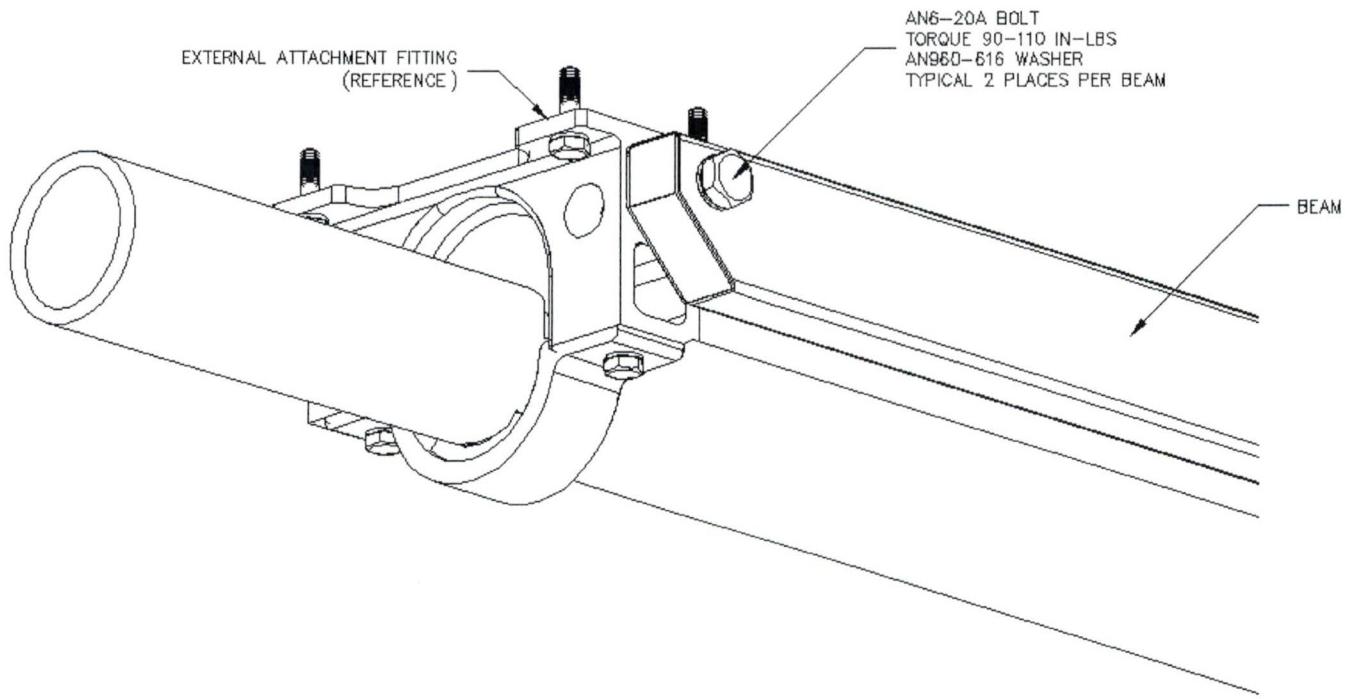


Figure 4 – Forward Beam Installation

(Aft installation similar)

### 25-2 BEAMS REMOVAL

Refer to Figure 4.

1. Remove any equipment mounted on beams.
2. Remove two AN6-20A Bolt and AN960-616 Washer from 69830-01 Forward Beam. Remove Forward Beam.
3. Remove two AN6-20A Bolt and AN960-616 Washer from 69831-01 Aft Beam. Remove Aft Beam.

**25-3 WEIGHT AND BALANCE**

Quick Release Mounting Provisions – with 49701-01 External Attachment Provisions

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
49730-01	Forward Beam	11.5	76.4	878.6	12.7	146.2
49731-01	Aft Beam	10.5	129.1	1355.6	13.6	142.8
49701-01	External Attachment Prov.	4.1	81.7	331.9	0	0
	Total	26.1	98.3	2566.1	11.1	289.0

Quick Release Mounting Provisions – with 49703-01 External Attachment Provisions

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
49730-01	Forward Beam	11.5	76.4	878.6	12.7	146.2
49731-01	Aft Beam	10.5	129.1	1355.6	13.6	142.8
49703-01	External Attachment Prov.	5.3	79.7	423.8	0	0
	Total	27.3	97.4	2658.0	10.6	289.0

**25-4 STRUCTURAL FASTENER DATA**

Refer to Bell Standard Practices Manual BHT-ALL-SPM for torque values not listed in this ICA.

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## **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS**

### **ICA 497.90**

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#### **EXTERNAL ATTACHMENT PROVISIONS**

##### **Bell 206B**

##### **Preface**

These Instructions for Continued Airworthiness shall be included in the Bell 206B Maintenance Manual when the External Attachment Provisions are installed in accordance with AERO Design Ltd. Document Control List DCL497-1, Revision 0, or later approved revision.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 18 December 2008

---

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## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for the Bell 206B embodying the External Attachment Provisions as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the External Attachment Provisions. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

### 0-5 GENERAL DESCRIPTION

External Attachment Provisions are installed to allow the installation of various equipment, such as cargo baskets. On the Bell 206B, the forward landing gear fittings are replaced, and the aft straps for retaining the cross tube are replaced. The new fittings incorporate a barrel nut for installing equipment.

### 0-6 STRUCTURAL PROVISIONS

The External Attachment Provisions are installed on the Bell 206B helicopter in accordance with Installation Drawing 49701 or 49703. The forward fittings are bolted to the lower fuselage and landing gear the same way as the original fittings. The aft saddle fittings are bolted to the existing landing gear mounting provisions using the same fasteners as used for the original straps.

## CHAPTER 4 – AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the External Attachment Provisions.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the Bell 206B Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of the External Attachment Provisions.

#### *300 Hour or Annual Inspection*

1. Inspection Area: Landing Gear Attachment Fittings
  - a) Visually inspect landing gear fittings in situ for cracks, corrosion or other damage.
  - b) Visually inspect hardware attaching fittings and hardware attaching cross-tubes to fitting in situ for security and damage.

#### *Special Inspections*

Following a hard landing inspect the External Attachment Provisions installation in accordance with the 300 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Landing Gear Attachment Fittings / Saddle Fittings

DO NOT REPAIR DAMAGE TO FITTINGS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Touch up paint as required.
- b) Do not repair elongation of provision bolt slot (AN6 bolt). Slot is nominally 0.391" (25/64") in diameter, with 1/4" (forward fitting) or 1/8" (aft saddle fitting) maximum freedom of motion left and right.
- c) Do not repair elongation of barrel nut hole. Hole is nominally 3/4" in diameter.

### 5-3 PROTECTIVE TREATMENT INFORMATION

The External Attachment Provisions are supplied Alodined, primed with epoxy primer, and painted with polyurethane paint.

Alternately, the External Attachment Provisions may be supplied hard anodized black. Anodized fittings do not require paint, but may be primed with epoxy primer, and painted with polyurethane paint.

## CHAPTER 32 – LANDING GEAR

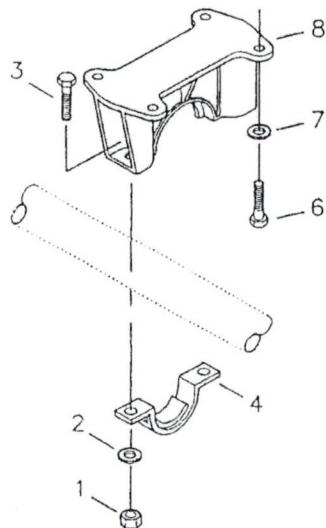
Refer to drawing 49701 or 49703. Refer to the Illustrated Parts Book for alternate part numbers to those listed. Refer to Maintenance Manual for further information regarding installation and removal of landing gear attachments.

Raise helicopter using a jack or hoist rated at 5000 lbs or more when changing forward fittings. Raise helicopter until landing gear is at least 4" off the ground.

### 32-1 FORWARD LANDING GEAR FITTINGS INSTALLATION

Refer to Figure 4

1. Remove original landing gear fittings, if required.
2. Locate right hand forward Landing Gear Fitting (8) on bottom of helicopter and install with four Bolt (6) and Washer (7). Repeat for left side.  
Alternate: Use Fitting (-9) and Spacer (-10) in place of fitting (8), and AN4-14A bolts (6) and Washer (7).
3. Raise front landing gear cross tube into position on the landing gear fittings.
4. Position Strap Assembly (4) under cross tube on landing gear fitting. Install two Bolt (3), Washer (2), and Nut (1). Bolts may be installed with nut inside fitting.



Item	Description	Part Number
1	Nut	MS21044N4
2	Washer	AN960PD416
3	Bolt	AN4-10A
4	Strap Assembly	206-052-105-009
---		
6	Bolt	AN4-6A
6	Bolt (alt.)	AN4-14A
7	Washer	NAS1149D0463J
8	Fitting	49720-01
-9	Fitting (alt.)	49311-01
-10	Spacer	49740-01

Figure 4 – Forward Landing Gear Fitting

### 32-2 FORWARD LANDING GEAR FITTINGS REMOVAL

Refer to Figure 4

1. Remove any equipment installed on the External Attachment Provisions.

2. Remove two Bolt (3), Washer (2), Nut (1) from ends of Strap Assembly (4) and remove Strap Assembly from right hand forward Landing Gear Fitting (8). Repeat for left hand side.
3. Lower front landing gear cross tube to the ground.
4. Remove four Bolt (6) and Washer (7) from right hand forward Landing Gear Fitting (8, or -9/-10) and remove fitting. Repeat for left hand side.

### 32-3 AFT LANDING GEAR FITTINGS INSTALLATION

Refer to Figure 5

1. Remove original straps from aft cross tube if required.
2. Position Right Saddle Fitting (21) under cross tube on landing gear attachment with vertical face aft. Install two Bolt (23), Washers (24) into existing anchor nut.
3. Position Left Saddle Fitting (22) under cross tube on landing gear attachment with vertical face aft. Install two Bolt (23), Washers (24) into existing anchor nut.

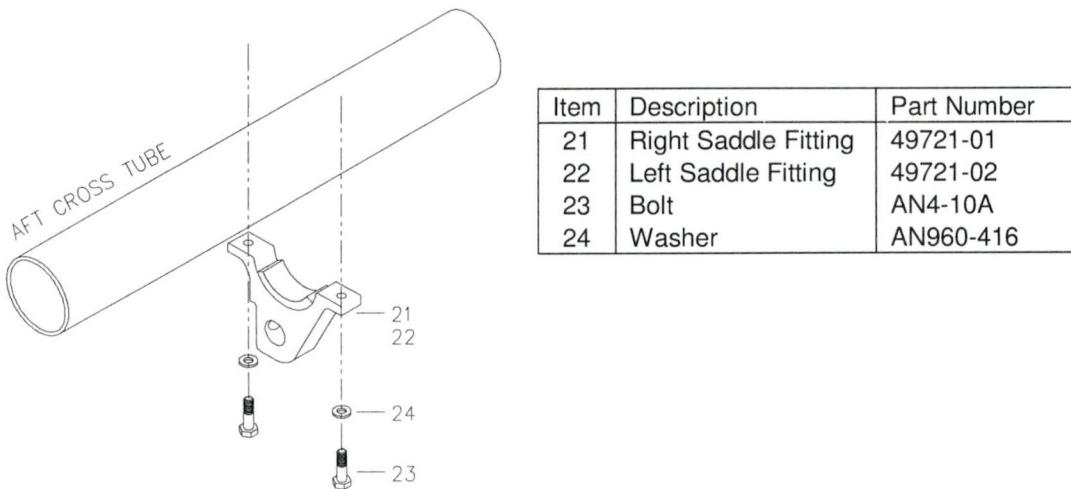


Figure 5 – Aft Landing Gear Saddle Fitting

### 32-4 AFT LANDING GEAR FITTINGS REMOVAL

Refer to Figure 5

1. Remove any equipment installed on the External Attachment Provisions.
2. Remove two Bolt (23), and Washers (24) and remove Right Saddle Fitting (21) from right hand aft landing gear attachment.
3. Remove two Bolt (23), and Washers (24) and remove Left Saddle Fitting (22) from left hand aft landing gear attachment.

**32-5 WEIGHT AND BALANCE**

Configuration 49701-01

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
49720-01	Forward Fitting (Pair)	3.42	73.2	250.3	0	0.0
49721-01	Aft Right Saddle Fitting	0.32	127.6	40.8	13.0	4.2
49721-02	Aft Left Saddle Fitting	0.32	127.6	40.8	-13.0	-4.2
	Total	4.06	81.7	331.9	0	0.0

Configuration 49703-01

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
49311-01	Forward Fitting (Pair)	2.68	73.2	196.2	0	0.0
49740-01	Spacer (Pair)	2.00	73.0	146.0	0	0
49721-01	Aft Right Saddle Fitting	0.32	127.6	40.8	13.0	4.2
49721-02	Aft Left Saddle Fitting	0.32	127.6	40.8	-13.0	-4.2
	Total	5.32	79.7	423.8	0	0.0

**32-6 STRUCTURAL FASTENER DATA**

Refer to Bell Standard Practices Manual BHT-ALL-SPM for torque values not listed in this ICA.

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## **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 803.90**

**BELL 206B**

**QUICK RELEASE CARGO BASKET**

**MODELS: 802, 803 & 811**

### **Preface**

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket assembled in accordance with AERO Design Ltd. Document Control Lists:

- DCL803-11 (for Installation 80301), Revision 0
- DCL802-11 (for Installation 80201), Revision 0
- DCL811-11 (for Installation 81101), Revision 0

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

**Revision 0**  
**Date: 18 December 2008**

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**AERO Design Ltd.**  
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**RECORD OF REVISIONS**

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0	18 December 2008		Original Issue

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
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Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

## 0-5 GENERAL DESCRIPTION

The cargo basket installation is a metal mesh basket installed to the side of the helicopter on beams attached to the new landing gear attachment fittings. The quick release basket allows for the installation and removal of the basket without tools, allowing a pilot operating in the field without maintenance support to install or remove the basket, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to new landing gear saddle fittings in the front, and new strap fittings in the rear. The quick release mechanism is built into the steel tube.

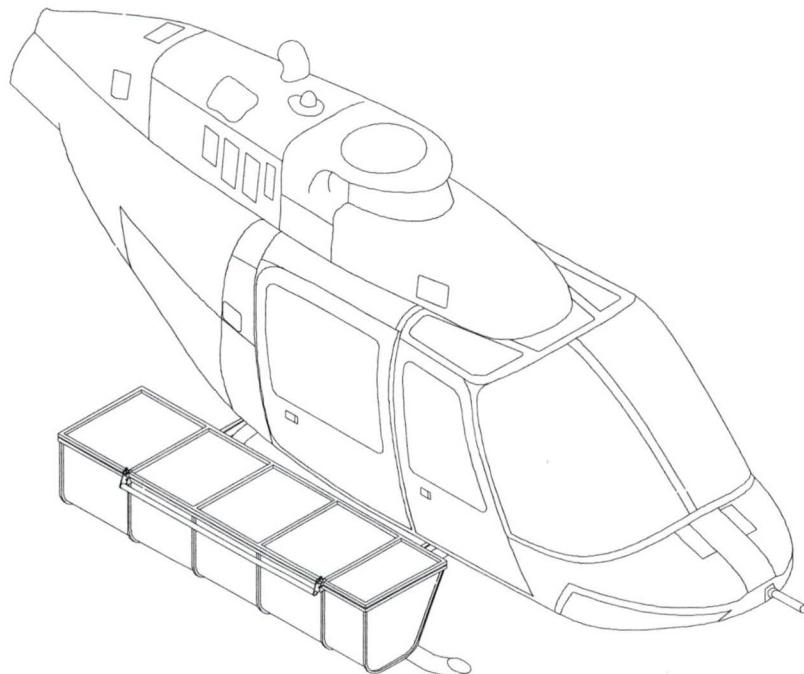


Figure 1 – Bell 206B Cargo Basket (Long)

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

#### *Daily Inspection*

##### 1. Inspection Area: Basket

- a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
- b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

#### *300 Hour or Annual Inspection*

##### 1. Inspection Area: Basket

- a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
- b) Visually inspect basket mesh for damage.

#### *Special Inspections*

Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 300 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

#### 1. Basket

- a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.
- b) Basket is fabricated from the following materials:

Attachment Hoops:	1" square steel tube and/or ½" square steel tube
Lid and Rim:	¾" square steel tube
Frames:	½" square steel tube
Mesh:	¾" 16 ga. (0.040") expanded steel mesh

- c) Touch up with polyurethane paint as required following repairs.

### **5-3 PROTECTIVE TREATMENT INFORMATION**

#### **1. Cargo Basket**

The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

**CHAPTER 11 – MARKINGS AND PLACARDS**

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

- a) Located on basket lid:

Short Basket:



Medium Basket:



Long Basket:



**CHAPTER 25 – EQUIPMENT AND FURNISHINGS****SECTION 50 – CARGO COMPARTMENTS****25-1 BASKET INSTALLATION**

Installation of the External Attachment Provisions and Quick Release Mounting Provisions is required prior to installing the Quick Release Cargo Basket. Refer to ICA497.90 and ICA497.91.

Refer to Figure 4 and Figure 5.

1. Set basket upper attachment into upper keyway in forward and aft beams.
2. At forward attachment hoop, lift basket until lower attachment fitting hits stop.
3. Push fitting into keyway and slide basket down until locked.
4. Repeat step 2 and Step 3 for aft attachment hoop.

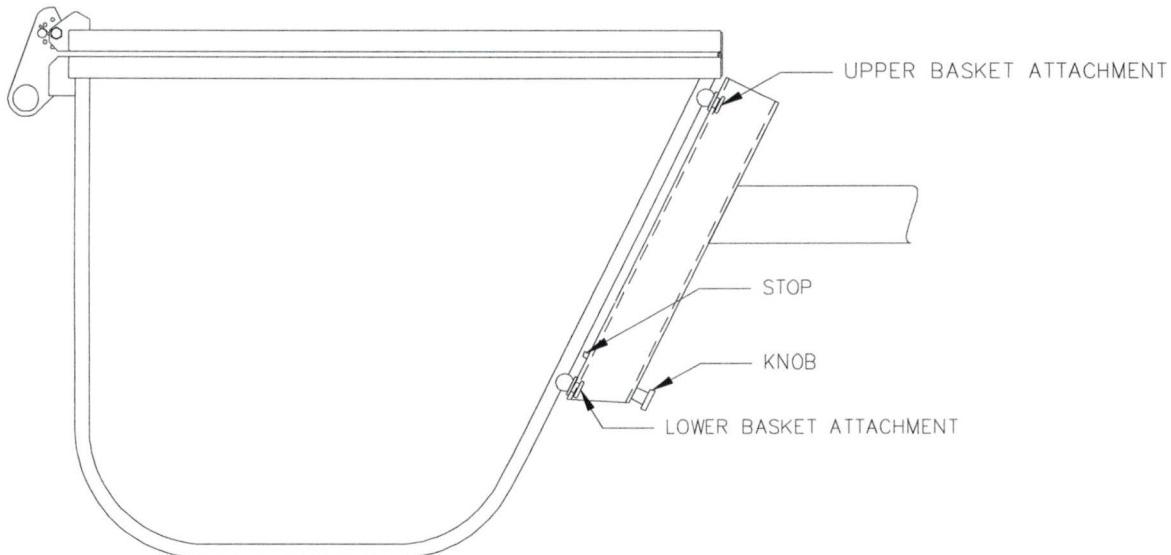


Figure 2 – Basket Attachment Features

**25-2 BASKET REMOVAL**

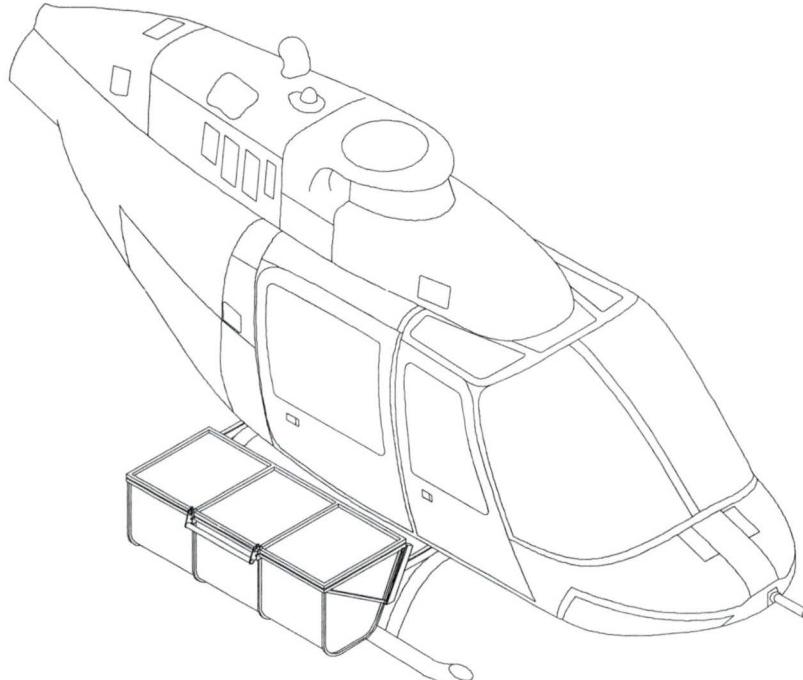
Refer to Figure 4 and Figure 5.

1. Pull knob at bottom end of forward beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
2. Pull knob at bottom end of aft beam and lift basket until lower attachment fitting is free of keyway. Keep upper basket attachment in keyway on beam.
3. Lift basket until upper attachments are out of keyways on both beams and remove basket from helicopter.

### 25-3 WEIGHT AND BALANCE

This section contains weight and balance information for cargo basket models 803, 802 and 811. Refer to the weight and balance information applicable to basket model installed.

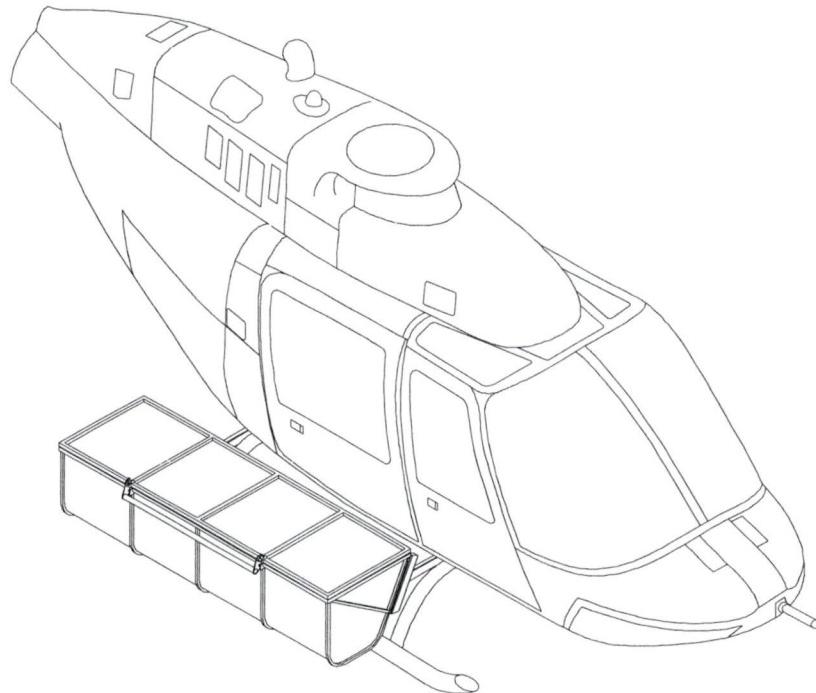
**MODEL 80201.** The following weight and balance is for the cargo basket installed in accordance with drawing 80201.



Quick Release Cargo Basket: Configuration 80201-01

P/N	Description	Weight lb	Longitudinal		Lateral	
			arm in	moment in-lb	arm in	moment in-lb
80210-01	Basket	35.0	102.8	3598.0	42.4	1484.0
49702-01	Quick Release Mounting Provisions	26.1	98.4	2568.8	13.1	289.0
<b>80201-01</b>	<b>Basket Installation</b>	<b>61.1</b>	<b>100.9</b>	<b>6166.8</b>	<b>29.0</b>	<b>1773.0</b>
Maximum Cargo (centred in basket)		200.0	102.8	20560.0	42.4	8480.0

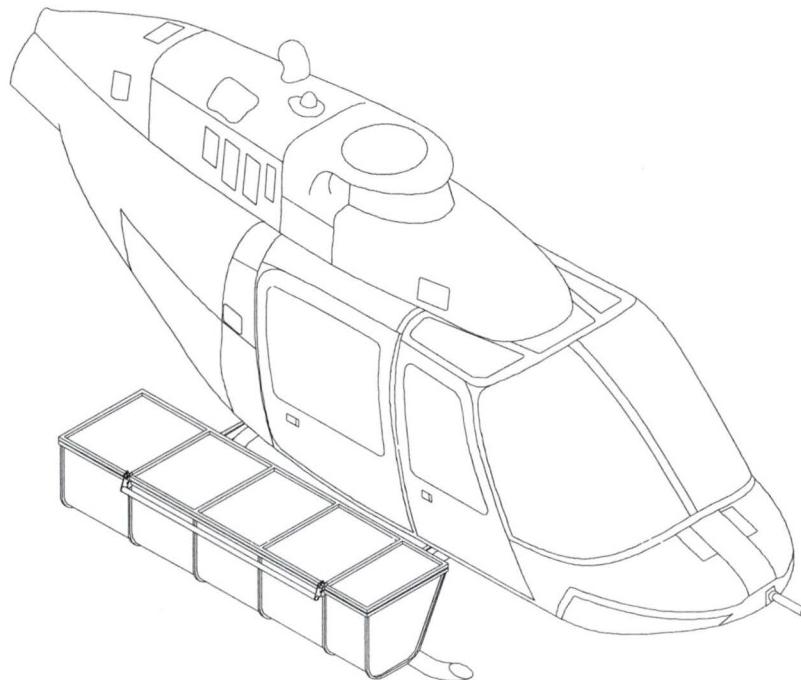
**MODEL 80301.** The following weight and balance is for the cargo basket installed in accordance with drawing 80301.



Quick Release Cargo Basket: Configuration 80301-01

P/N	Description	Weight		Longitudinal		Lateral	
		lb	in	arm in	moment in-lb	arm in	moment in-lb
80210-01	Basket	45.0	111.9	5035.5	42.4	1908.0	
49701-01	Quick Release Mounting Provisions	26.1	98.4	2568.8	13.1	289.0	
<b>80201-01</b>	<b>Basket Installation</b>	<b>71.1</b>	<b>107.0</b>	<b>7604.3</b>	<b>30.9</b>	<b>2197.0</b>	
Maximum Cargo (centred in basket)		200.0	111.9	22380.0	42.4	8480.0	

**MODEL 81101.** The following weight and balance is for the cargo basket installed in accordance with drawing 81101.



Quick Release Cargo Basket: Configuration 81101-01

P/N	Description	Weight lb	Longitudinal		Lateral	
			arm in	moment in-lb	arm in	moment in-lb
81110-01	Basket	50.0	105.9	5925.0	42.4	2120.0
49702-01	Quick Release Mounting Provisions	26.1	98.4	2568.8	13.1	289.0
<b>81101-01</b>	<b>Basket Installation</b>	<b>76.1</b>	<b>103.3</b>	<b>7863.8</b>	<b>31.7</b>	<b>2409.0</b>
Maximum Cargo (centred in basket)		200.0	105.9	21180.0	42.4	8480.0

## 25-6 STRUCTURAL FASTENER DATA

Refer to Bell Standard Practices Manual for torque values not listed in this ICA.

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## **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 878.91**

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### **BELL 206B**

### **QUICK RELEASE STEP**

#### **Preface**

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Step installed in accordance with AERO Design Ltd. Document Control List DCL878-1, Revision 0, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 18 February, 2010

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Step. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
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Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

## 0-5 GENERAL DESCRIPTION

The Quick Release Step installation consists of a step assembly which is attached to quick release mounting provisions installed on the helicopter. These mounting provisions are capable of mounting various equipment including cargo baskets.

The step itself consists of an aluminum extrusion attached to brackets near the ends with fittings that lock into the quick release mechanism.

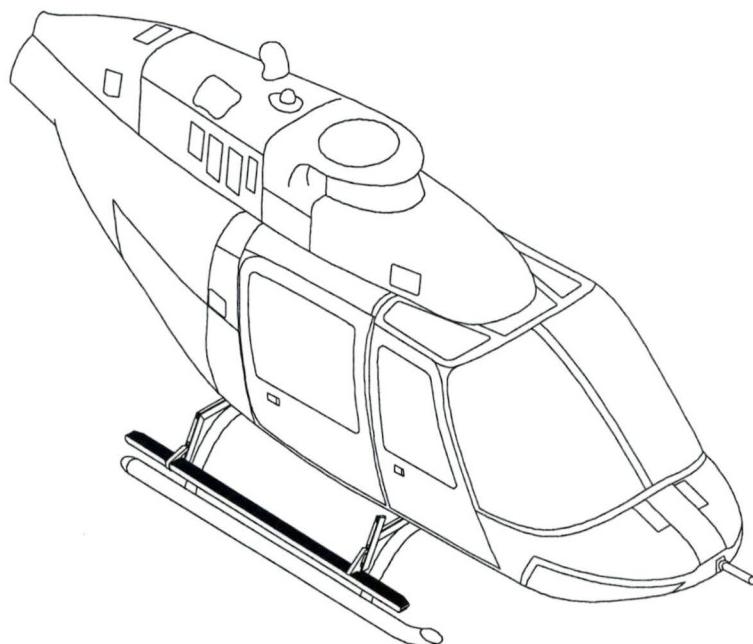


Figure 1 – Bell 206B Step Installation

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due to installation of the Quick Release Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Step.

#### *300 Hour or Annual Inspection*

Refer to ICA497.90 and ICA497.91 for the inspection of mounting provisions.

1. Inspection Area: Step

- a) Visually inspect welds attaching brackets to step extrusion for cracks, corrosion or other damage.
- b) Visually inspect step for damage.
- c) Visually inspect lugs attaching the step to the beams for security and damage.

#### *Special Inspections*

Following a hard landing inspect the Quick Release Step installation in accordance with the 300 hour or annual inspection listed above.

## 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

Refer to the ICA for the Quick Release Cargo Basket for each specific model of helicopter for further limits and repair instructions.

If damage is found in the inspections above, repair in accordance with the instructions below.

### 1. Step Assembly

Part	Type of Damage	Max. Allowable	Repair
Step Bracket	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Bent Lugs	None	N/A
Centre Step Section (between brackets)	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at middle of step	None
Forward / Aft Step Section (forward / aft of bracket)	Corrosion	2" x 2" x 0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 1" long	Blend up to 0.010" deep with scotchbrite.
	Cracks / Dents	None	N/A
	Permanent Deflection of Step	0.25" max at end of step	None

### 2. Steel Beams

Part	Type of Damage	Max. Allowable	Repair
Steel Beam	Corrosion	0.030" deep	Blend up to 0.030" deep with scotchbrite.
	Scratches / Nicks (Outboard face)	0.030" deep x 0.125" wide	Blend up to 0.030" deep with scotchbrite.
	Scratches / Nicks (all other sides)	0.060" deep x 0.125" wide	Blend up to 0.060" deep with scotchbrite.
	Cracks/Dents	None	N/A
	Elongation of Keyway	See figure 2	None
	Widening of slots	27/64" (0.422) max. diameter (check with a 27/64" drill shank)	None

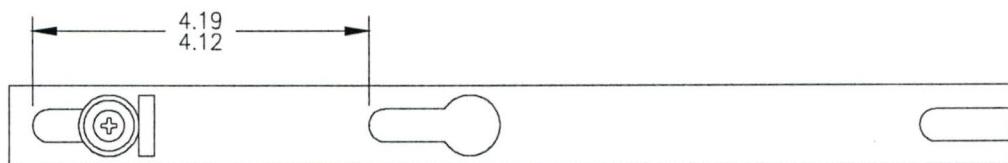


Figure 2 – Critical Keyway dimensions

### 3. Step Welds

Cracks up to 0.25" long may be repaired as follows:

- a) Clean area of paint.
- b) Grind away weld in area of crack.
- c) T.I.G. weld per MIL-STD-2219 Class "C" using ER4043 filler rod. Do not grind flush.
- d) Touch up paint as noted in section 5-3.

## 5-3 PROTECTIVE TREATMENT INFORMATION

### 1. Step Assembly

The Step Assembly is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint. The tread area is painted with anti-skid paint. If the anti-skid paint is damaged, touch up with Randolph X1567 Wingwalk grip paint or equivalent.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

Refer to the ICA for the Quick Release Cargo Basket for installation and removal instructions for the mounting provisions.

### 25-1 STEP REMOVAL

Refer to Figure 3.

1. Pull knob at bottom end of forward beam and lift step until lower attachment fitting is free of keyway. Keep upper attachment in keyway on beam.
2. Pull knob at bottom end of aft beam and lift step until lower attachment fitting is free of keyway. Keep upper attachment in keyway on beam.
3. Lift step until upper attachments are out of keyways on both beams and remove from helicopter.

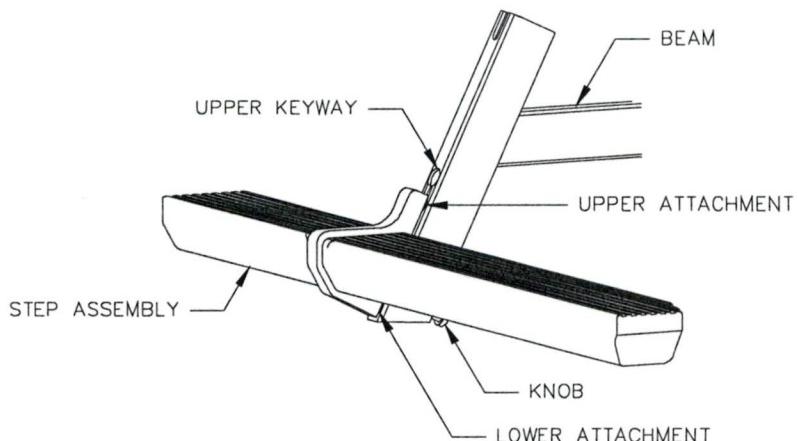


Figure 4 – Step Attachment

### 25-2 STEP INSTALLATION

Refer to Figure 3.

1. Set upper attachment into upper keyway in forward and aft beams.
2. Lift step until lower attachment fitting hits stop. Push fitting into keyway and slide step down until locked.

### 25-3 WEIGHT AND BALANCE

Different weight and balance configurations are required as the step may be removed/installed in the field. The first is the installation of Provisions only. The second is Provisions and Step.

Part #	Name	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
49702-01	Provisions Installation	26.1	98.3	2566.1	11.1	289.0
87810-01	Step Assembly	9.0	91.3	821.7	35.4	318.6
87801-01	Step Installation (Total)	35.1	96.5	3387.8	17.3	607.6

### 25-4 STRUCTURAL FASTENER DATA

Refer to Standard Practices Manual for torque values not listed in this ICA.

## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 623.91

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### BELL 206B, 206L SERIES, 407

#### AUXILIARY STEP

##### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Auxiliary Step assembled in accordance with AERO Design Ltd. Document Control List DCL623, Revision 4, or later approved revision, is installed.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 1  
Date: 30 November, 2010

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## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

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May 5, 2010  
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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Auxiliary Step as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness
- LH - Left Hand
- RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Auxiliary Step. Requests for a copy may be made in writing to:

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2013 39<sup>th</sup> Avenue N.E.  
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T2E 6R7  
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Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

## 0-5 GENERAL DESCRIPTION

The Auxiliary Step installation (62302-01) consists of a fitting attached to the fwd cross tube with a tube that sticks out fwd from the cross tube. The Auxiliary Step is installed to aid access to the helicopter cabin.

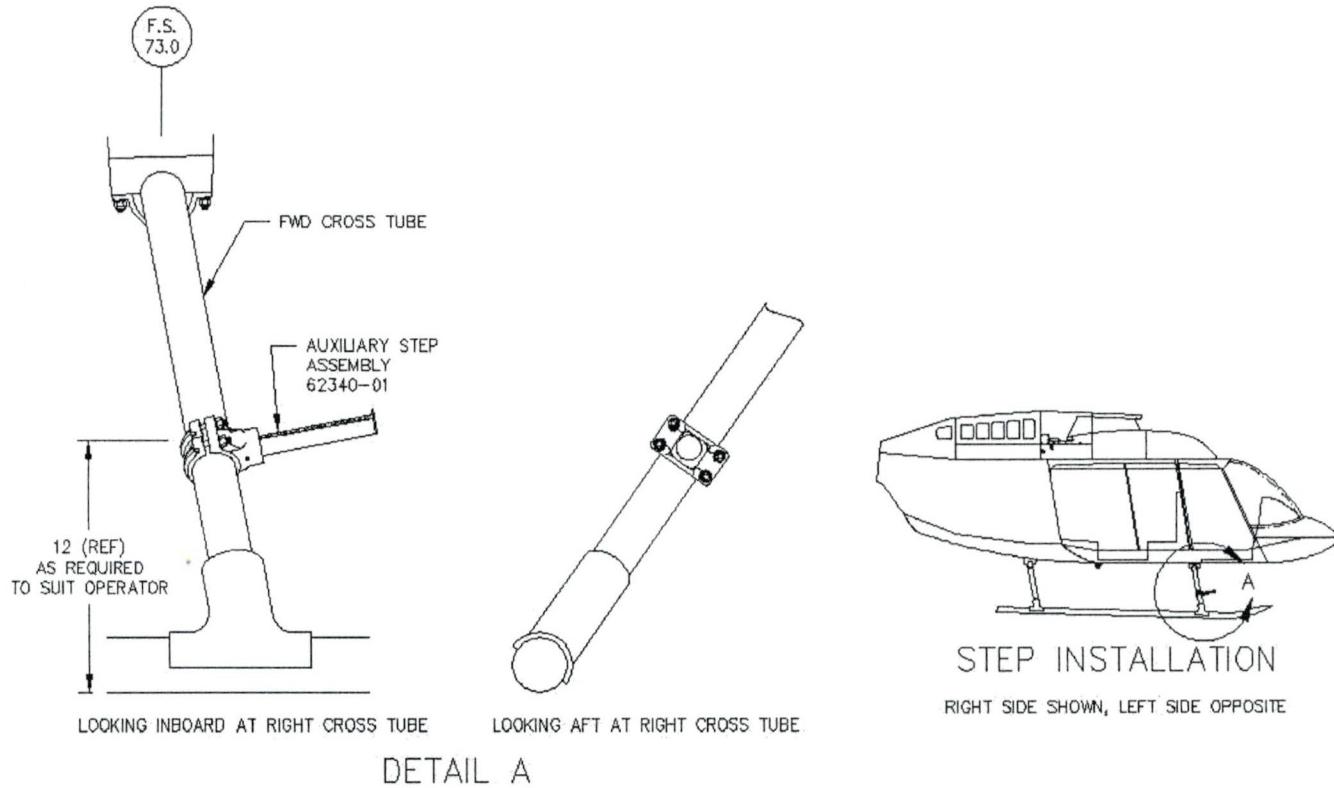


Figure 0-2 – Auxiliary Step Installation

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Auxiliary Step.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Auxiliary Step.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Step
  - a) Visually inspect all mounting hardware for condition and security.
  - b) Visually inspect step for cracks, corrosion or other damage.
  - c) Visually inspect step tube attachment to socket fitting. Step tube must not be loose in socket.

#### *Special Inspections*

1. Following a hard landing inspect the Auxiliary Step installation in accordance with the 100 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Auxiliary Step Assembly 62340

Part	Type of Damage	Max. Allowable	Repair
Step Tube	Corrosion	0.010" deep	Blend up to 0.010" deep with scotchbrite.
	Scratches / Nicks	0.010" deep x 0.5" long	Blend up to 0.010" deep with scotchbrite.
	Cracks	None	N/A
	Permanent bend	*Note	None
Fitting	Corrosion	0.030" deep	Blend up to 0.030" deep with scotchbrite.
	Scratches / Nicks	0.060" deep x 0.5" long	Blend up to 0.060" deep with scotchbrite.
	Cracks	None	N/A
	Elongation of socket hole	None	N/A

\*Note: Minor bending of the step tube that does not cause the tube to become loose in the socket is acceptable.

### 5-3 PROTECTIVE TREATMENT INFORMATION

#### 1. Step Assembly

The Step Assembly is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint. The tread area is painted with anti-skid paint. If the anti-skid paint is damaged, touch up with Randolph X1567 Wingwalk grip paint or equivalent.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

The Auxiliary Step Installation may be applied to the right and/or left side of the helicopter.

### 25-1 STEP INSTALLATION

1. Locate Step Assembly 62340-01 on fwd cross tube. Fasten one side with AN4-14A Bolts (X2), AN960-416 Washers (X4), and MS21044N4 Nuts (X2); fasten opposite side with FT4F-175H T-Bolt (X2), AN960-416 Washers (X2) and MS21044N4 Nuts (X2). Rotate step until orientated forward. Torque nuts to 50-70 in-lbs.

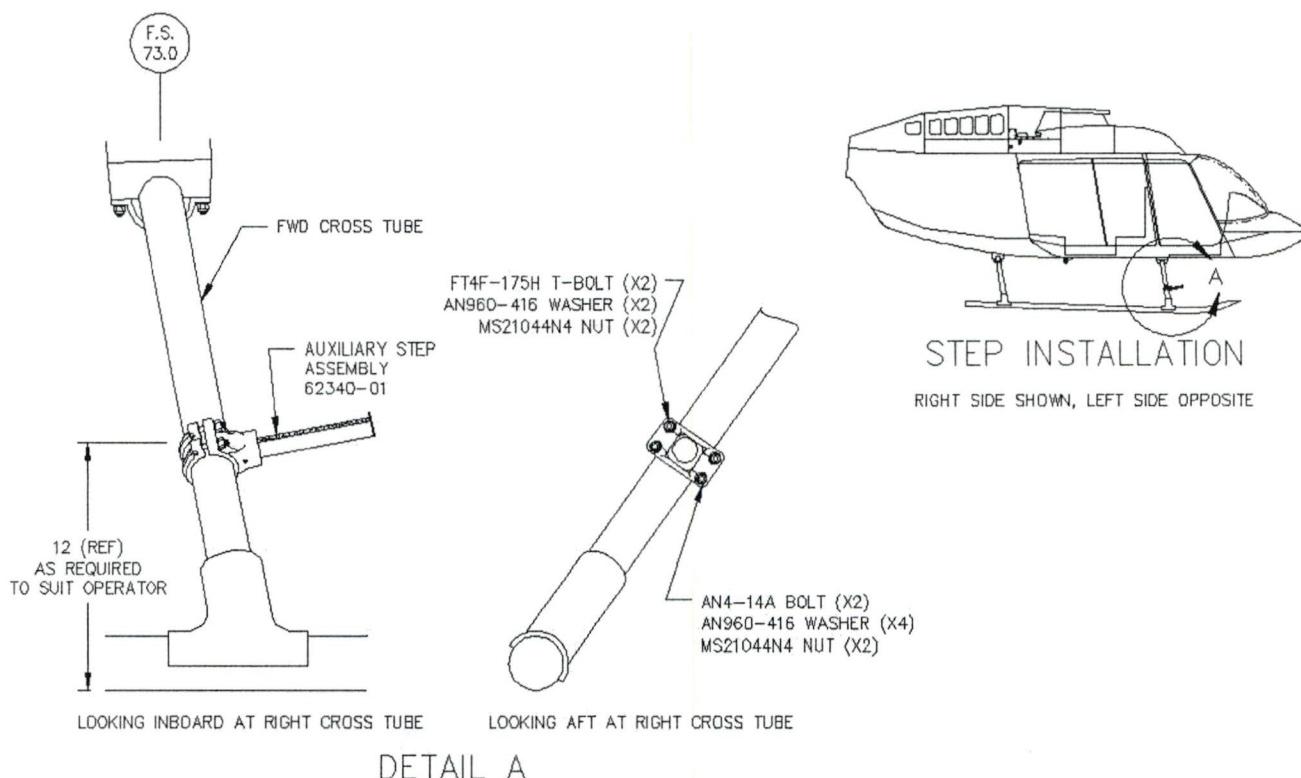


Figure 2 – Auxiliary Step Attachment Details

### 25-2 STEP REMOVAL

Refer to Figure 2.

1. Remove all AN4-14A Bolts, FT4F-175H T-Bolts, AN960-416 Washers, and MS21044N4 Nuts attaching Step Assembly to fwd cross tube. Remove Step Assembly.

**25-3 WEIGHT AND BALANCE****Standard**

P/N	Description	Weight	Longitudinal		Lateral	
			lb	arm in	moment in-lb	arm in
62302-01	Auxiliary Step Inst'n (Right)	1.0	68.6	68.6	42.1	42.1
62302-01	Auxiliary Step Inst'n (Left)	1.0	68.6	68.6	-42.1	-42.1

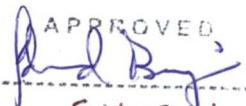
**Metric**

P/N	Description	Weight	Longitudinal		Lateral	
			kg	arm mm	moment mm-kg	arm mm
62302-01	Auxiliary Step Inst'n (Right)	0.45	1742	784	1069	481
62302-01	Auxiliary Step Inst'n (Left)	0.45	1742	784	-1069	-481

**25-4 STRUCTURAL FASTENER DATA**

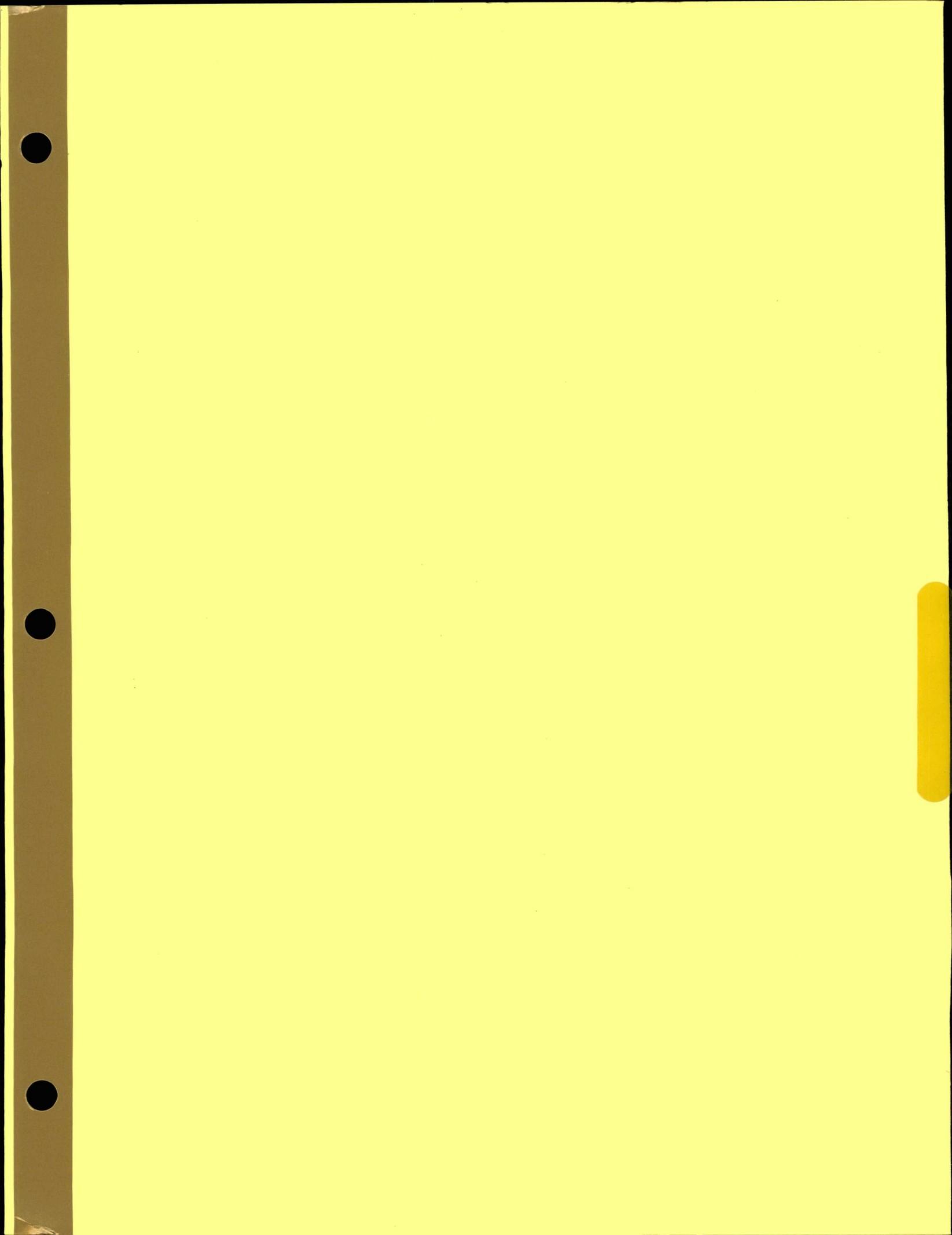
Refer to Standard Practices Manual for torque values not listed in this ICA.

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION	
<b>FABRICATION DOCUMENTS</b>			
70401	Open Forward End Modification (Bell 206L/407 Fixed and McDonnell Douglas MD600N Quick Release Only)	1	
70402	Lid Door Modification	1	
70403	Auxiliary Latch Modification	3	
70404	Open Forward End Modification (Bell 206L/407 Quick Release Only)	1	
70405	Lid Step Modification	2	
70406	Open Forward End Modification (Eurocopter AS350/AS355 and Bell 206B Quick Release Only)	0	
70407	Open Forward End Modification (Eurocopter EC135 Quick Release Only)	0	
70408 70428 70438	Installation, Hanger Wheel Assembly, Hanger Wheel Parts, Hanger Wheel	0 0 0	
<b>ENGINEERING DOCUMENTS</b>			
ER704.02	Engineering Report	0	
<b>APPROVAL:</b>  Transport Canada E. BURGOIN DAR 290M  APPROVED By  App'l No. SH09-1 App'l Date 27 Jan 2009 Issue No. 1 Issue Date 27 Jan 2009  THIS DCL APPROVED 29 Apr 2010	ORIGINAL DATE: 10 May 2006 REVISION DATE: April 29, 2010	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333	
	SHEET 1 OF 1	<b>Cargo Basket Modifications</b>	
		Rev.	<b>DCL704</b> <b>6</b>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
87810 87820 87821	Quick Release Step Assembly Step Bracket Fabrication Step Bracket Fabrication	0 0 0
<b>ENGINEERING DOCUMENTS</b>		
ER878.01	Engineering Report	0
<b>APPROVAL:</b>		
 <p>Transport Canada Transport Canada</p> <p>AIRCRAFT CERTIFICATION DIVISION</p> <p><b>APPROVED</b> <i>D.S. Austin</i></p> <p>By <u>D.S. Austin</u> Appr'l No. <u>SH09-5</u> Appr'l Date <u>2009-03-20</u> Issue No. <u>2</u> Issue Date <u>2010-12-03</u> YY - MM - DD</p>	ORIGINAL DATE: 18 February 2010 REVISION DATE:  SHEET 1 OF 1	<p><b>AERO DESIGN LTD.</b>          2013 – 39<sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7          Ph. (403) 250-8027          Fax. (403) 250-8333  <a href="http://www.aerodesign.ca">www.aerodesign.ca</a></p> <p><b>Bell 206B</b>  <b>Quick Release Step</b>  <b>Fabrication</b></p> <p style="text-align: right;">Rev. <b>0</b></p> <p style="text-align: center;"><b>DCL878-11</b></p>



*Department of Transport*

# *Supplemental Type Certificate*

This approval is issued to:

Aero Design Ltd.  
2013 39th Avenue North East  
Calgary, Alberta  
Canada T2E 6R7

**Number:** SH10-48

**Issue No.:** 1

**Approval Date:** October 21, 2010

**Issue Date:** October 21, 2010

**Responsible Office:**

Prairie and Northern

**Aircraft/Engine Type or Model:**

ROBINSON R44, R44 II

**Canadian Type Certificate or Equivalent:**

ROBINSON R44,R44 II H-97

**Description of Type Design Change:**

Installation of Quick Release Mounting Provisions; Installation of Quick Release Cargo Basket

**Installation/Operating Data,  
Required Equipment and Limitations:**

**Configuration A - Quick Release Mounting Provisions:**

Installation of Quick Release Mounting Provisions to be completed in accordance with Transport Canada approved, AERO Design Ltd. Document Control List, DCL906-1, Revision 0, dated 23 September 2010, or later approved revision.

Transport Canada accepted, Aero Design Ltd. Instructions for Continued Airworthiness ICA 906.91, Revision 0, dated 22 September 2010, or later approved revision is required with this installation.

Quick Release Mounting Provisions installed in accordance with DCL906-1 may remain installed if a cargo basket configuration is removed. Mounting beams may be removed leaving attachment fittings in place on the landing gear.



**Conditions:** This approval is only applicable to the type/model of aeronautical product specified therein. Prior to incorporating this modification, the installer shall establish that the interrelationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the modified product.

  
D.S. Austen  
For Minister of Transport

 Canada

United States of America  
Department of Transportation -- Federal Aviation Administration

# Supplemental Type Certificate IMPORT

Number SR02991NY

This certificate issued to      Aero Design Ltd.  
                                        2013-39<sup>th</sup> Avenue NE  
                                        Calgary, Alberta, T2E 6R7  
                                        Canada

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 27 of the Federal Aviation Regulations.

Original Product -- Type Certificate Number: H11NM

Make: Robinson

Model: R44, R44II

Description of Type Design Change:

The installation of Quick Release Mounting Provisions and Quick Release Cargo Basket.

1. Configuration A-Quick Release Mounting Provisions: Installation of Quick Release Mounting Provisions to be done in accordance with Transport Canada approved Aero Design Ltd. Document Control List, DCL 906-1, Revision 0 dated September 23, 2010, or later Transport Canada approved revision.
2. Configuration B-External Cargo Basket: Installation of Configuration A, Quick Release Mounting Provisions is a prerequisite for the installation of Configuration B, External Cargo Basket. Installation of Quick Release Cargo basket to be done in accordance with Transport Canada approved, Aero Design Ltd. Document Control List, DCL 906-2, Revision 0 dated September 23, 2010, or later Transport Canada approved revision.

Limitations and Conditions:

1. Configuration A- Quick Release Mounting Provisions:

- a. Instructions for Continued Airworthiness described in Aero Design Ltd. Instructions for Continued Airworthiness ICA 906.91, Revision 1 dated June 30, 2011, Transport Canada accepted June 29, 2011, or later Transport Canada accepted revisions are required for this installation.
- b. Quick Release Mounting Provisions installed in accordance with DCL906-1 may remain installed if a cargo basket configuration is removed. Mounting beams may be removed leaving attachment fittings in place on the landing gear.

(Limitations and Conditions continued on page 2 of 2)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: November 30, 2010

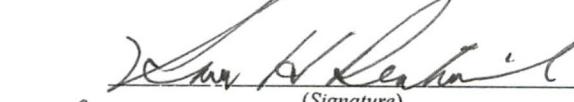
Date reissued:

Date of issuance: June 30, 2011

Date amended:



By direction of the Administrator

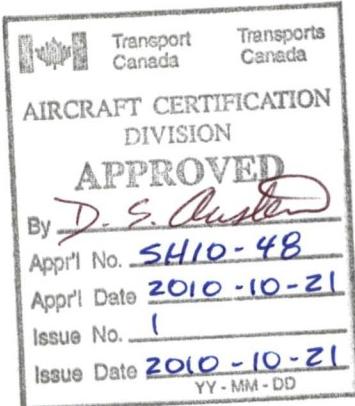
  
(Signature)

Anthony Socias  
Manager  
New York Aircraft Certification Office

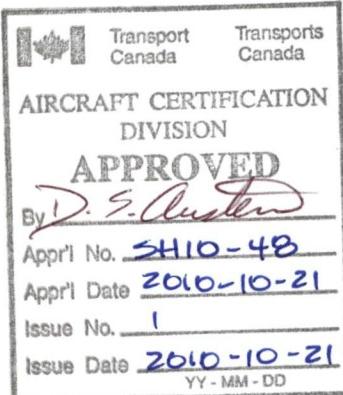
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
90602	Quick Release Mounting Provisions Installation	0
ICA906.91	Instructions for Continued Airworthiness	0
FMS906.90	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL906-11	Document Control List for External Attachment Provisions Fabrication	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>The stamp is rectangular with a double-line border. Inside, it features the Transport Canada logo at the top left, followed by "Transport Canada" and "Transports Canada" in French. Below this, it says "AIRCRAFT CERTIFICATION DIVISION". In the center, the word "APPROVED" is printed above a handwritten signature that appears to be "D. S. Custer". Below the signature, the text reads: "Appl' No. SH10-48", "Appl' Date 2010-10-21", "Issue No. 1", and "Issue Date 2010-10-21" followed by "YY-MM-DD".</p>	ORIGINAL DATE: 23 September 2010 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>  <b>Robinson R44, R44 II</b> <b>Quick Release Mounting</b> <b>Provisions Installation</b>
		Rev.
	<b>DCL906-1</b>	<b>0</b>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>INSTALLATION DOCUMENTS</b>		
90601	Quick Release Cargo Basket Installation	0
ICA906.92	Instructions for Continued Airworthiness	0
FMS906.90	Flight Manual Supplement	0
<b>FABRICATION DOCUMENTS</b>		
DCL906-12	Document Control List for Quick Release Cargo Basket	0
<b>ENGINEERING DOCUMENTS</b>		
<b>APPROVAL:</b>		
 <p>Transport Canada Transports Canada  AIRCRAFT CERTIFICATION DIVISION  APPROVED By <u>D. S. Austin</u> App'r No. <u>SH10-48</u> App'r Date <u>2010-10-21</u> Issue No. <u>1</u> Issue Date <u>2010-10-21</u> YY - MM - DD</p>	ORIGINAL DATE: 23 September 2010 REVISION DATE:  SHEET 1 OF 1	<p style="text-align: center;"><b>AERO DESIGN LTD.</b>          2013 – 39<sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7          Ph. (403) 250-8027          Fax. (403) 250-8333</p> <p style="text-align: center;"><b>Robinson R44, R44 II</b>  <b>Quick Release Cargo Basket</b>  <b>Installation</b></p> <p style="text-align: right;">Rev. <b>0</b></p> <p style="text-align: center;"><b>DCL906-2</b></p>

AERO DESIGN LTD.

FMS906.90

## ROBINSON R44, R44 II

### ROTORCRAFT FLIGHT MANUAL SUPPLEMENT for the INSTALLATION of the AERO DESIGN QUICK RELEASE CARGO BASKET

Supplemental Type Certificate No. SH10-48

Sections I, II, III and IV of this document comprise the Transport Canada Approved sections of this Flight Manual Supplement. Compliance with Section I, Limitations, is mandatory.

Section V and any subsequent sections if present are Unapproved and are provided for information only.

The information and data contained in this Flight Manual Supplement supersede or supplement that contained in the basic Approved Flight Manual for the Robinson R44 or R44 II when fitted with the Quick Release Cargo Basket Installation. For limitations, procedures and performance not listed in this Flight Manual Supplement, refer to the Approved Flight Manual and other approved Flight Manual Supplements.



## Table of Contents

I	Limitations	3
II	Normal Procedures	3
III	Emergency Procedures	3
IV	Performance	3
V	Weight and Balance	4
VI	Installation / removal instructions	6

## Record of Revisions

Revision	Issue Date	Pages Revised	Date Inserted	By
0	22 Sept 2010	Original Issue		

## I LIMITATIONS

1. Only one basket may be installed at a time, on the right or left side.
2. The maximum load in the AERO Design Ltd. Quick Release Cargo Basket is 175 lb.
3. Flight operations limited to VFR conditions with AERO Design Ltd. Cargo Basket installed.
4. Maximum  $V_{NE}$  of 110 KIAS with either basket installed. Use R44 placarded  $V_{NE}$  or 110 KIAS whichever is lower.

## II NORMAL PROCEDURES

1. Pre-flight inspections:
  - a) Ensure that all cargo stored in the cargo basket is properly tied down and secured for flight.
  - b) Ensure that the lid of cargo basket is closed and secured.
  - c) Ensure the basket is locked in position on the beams. Pull up on the aft end of the basket to check.

### CAUTION

It is possible to exceed the lateral centre of gravity limits of the rotorcraft under some loading conditions. Pilots must ensure that lateral C of G is within limits when loading the basket.

## III EMERGENCY PROCEDURES

No change from basic Approved Flight Manual.

### CAUTION:

The rotorcraft glide angle is steeper than that of the basic helicopter when the AERO Design Ltd. Cargo Basket is installed.

## IV PERFORMANCE

Cruise performance and range will be reduced by approximately 14% percent with the cargo basket installed on either side.

Climb performance will be reduced by up to 300 fpm with the cargo basket installed on either side.

## V WEIGHT AND BALANCE

- The following weight and balance is for the quick release cargo basket configuration, installed in accordance with drawing 90601.

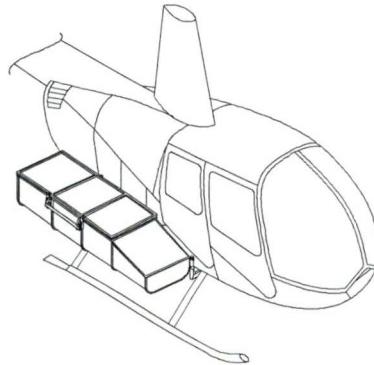


Figure 1 –Quick Release Cargo Basket Configuration

Standard P/N <sup>1</sup>	Description	Weight lb	Longitudinal		Lateral <sup>2 3</sup>	
			arm in	moment in-lb	arm in	moment in-lb
90610-01-XX	Basket	41.8	112.4	4698.3	34.4	1437.9
90602-01-XX	Mounting Provisions	11.6	101.3	1174.5	7.2	84.0
<b>90601-01-XX</b>	<b>Basket Installation</b>	<b>53.4</b>	<b>110.0</b>	<b>5872.8</b>	<b>28.5</b>	<b>1521.9</b>

Maximum Cargo (centred in basket)	175.0	112.4	19670.0	34.4	6020.0
--------------------------------------	-------	-------	---------	------	--------

Metric P/N <sup>1</sup>	Description	Weight kg	Longitudinal		Lateral <sup>2 3</sup>	
			arm mm	moment mm-kg	arm mm	moment mm-kg
90610-01-XX	Basket	18.9	2855	53999	874	16526
90602-01-XX	Mounting Provisions	5.3	2552	13396	184	965
<b>90601-01-XX</b>	<b>Basket Installation</b>	<b>24.2</b>	<b>2789</b>	<b>67394</b>	<b>724</b>	<b>17491</b>

Maximum Cargo (centred in basket)	80.0	2855	228397	874	69901
--------------------------------------	------	------	--------	-----	-------

<sup>1</sup> -XX indicates side. -01 is RH, -02 is LH.

<sup>2</sup> Lateral arm is negative on LH side.

<sup>3</sup> Longitudinal and Lateral moment arms are given only for the center of the Cargo Basket. Due to the length and position of the basket, some loading arrangements may require that actual moment arms be measured, to determine the correct moments about the center of gravity.

**CAUTION:**

It is possible to exceed lateral CG limits in some configurations.

## VI INSTALLATION / REMOVAL INSTRUCTIONS

The basket is installed in accordance with drawing 90601. The mounting provisions are installed in accordance with drawing 90602. Removal of the basket leaving the beams in place is an approved configuration for flight. Logbook entry indicating installation or removal of basket and weight and balance amendment is required when basket is installed or removed.

1. Installation - Refer to Figure 2 and 3.
  1. At forward end of basket, set upper attachment fitting into keyway in forward beam. Allow basket to hang from fitting, rest aft end on ground.
  2. Raise aft end of basket to aft beam, sliding basket aft, and lift until lower attachment fitting hits stop over keyway.
  3. Push fitting into lower keyway, ensure top fitting enters top keyway, and slide basket down until locked.

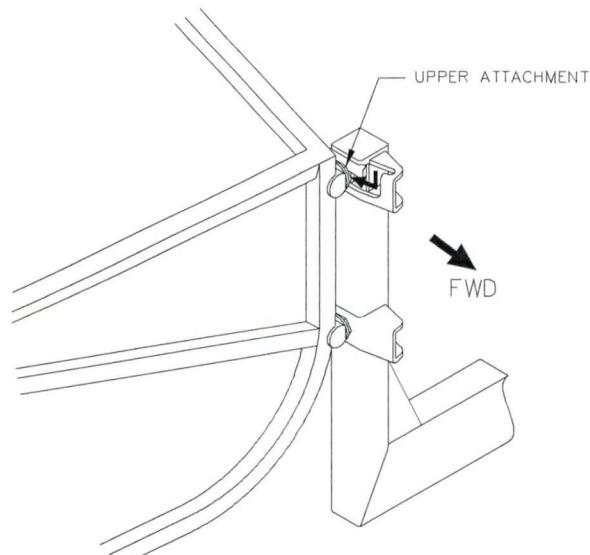


Figure 2 – Basket Forward Attachment

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FMS906.90

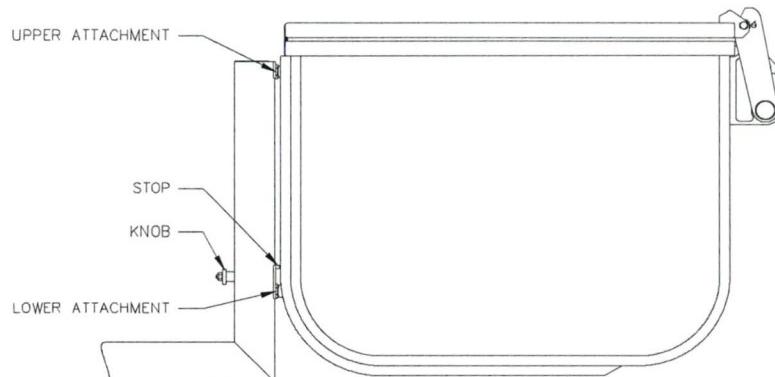


Figure 3 – Basket Aft Attachment

2. Removal - Refer to Figure 2 and 3.
  1. Pull knob at bottom end of aft beam and lift basket until attachment fittings are free of keyways. Rest aft end of basket on ground.
  2. Slide basket forward and lift attachment fitting out of keyway on forward beam.



## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 906.92

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### QUICK RELEASE CARGO BASKET

#### ROBINSON R44, R44 II

#### Preface

These Instructions for Continued Airworthiness shall be included in the rotorcraft Maintenance Manual when the Quick Release Cargo Basket is installed in accordance with AERO Design Ltd. Document Control List DCL906-2.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 22 September 2010

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**AERO Design Ltd.**  
Engineering Consultants

2013 – 39<sup>th</sup> Avenue N.E., Calgary, Alberta T2E 6R7  
Phone: (403) 250-8027  
Fax: (403) 250-8333  
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## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

## List of Revisions

Revision 0 (Original Issue) 22 September, 2010

## List of Effective Pages

<u>Description</u>	<u>Pages</u>	<u>Revision No.</u>
Cover	1	0
Revision Record/List of Effective Pages	2	0
Table of Contents	3	0
00-00-00	4-5	0
04-00-00	6	0
05-00-00	7-8	0
11-00-00	9	0
25-50-00	10-12	0

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for rotorcraft embodying the Quick Release Cargo Basket as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

ICA - Instructions for Continued Airworthiness

LH - Left Hand

RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the Quick Release Cargo Basket. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

This installation is NOT compatible with fixed or pop-out float installations.

## 0-5 GENERAL DESCRIPTION

The cargo basket installation is a mesh basket installed to the side of the helicopter on beams attached to fittings mounted on the cross tube elbows. The quick release mechanism allows for the installation and removal of the basket quickly without tools, leaving the mounting beams in place.

The basket itself is made of a steel welded tubing structure, and lined with expanded steel mesh. The basket has a hinged lid with a self-locking handle.

The beams consist of a steel tube bolted to fittings attached to the forward and aft cross tube elbows. The quick release mechanism is built into the steel tube.

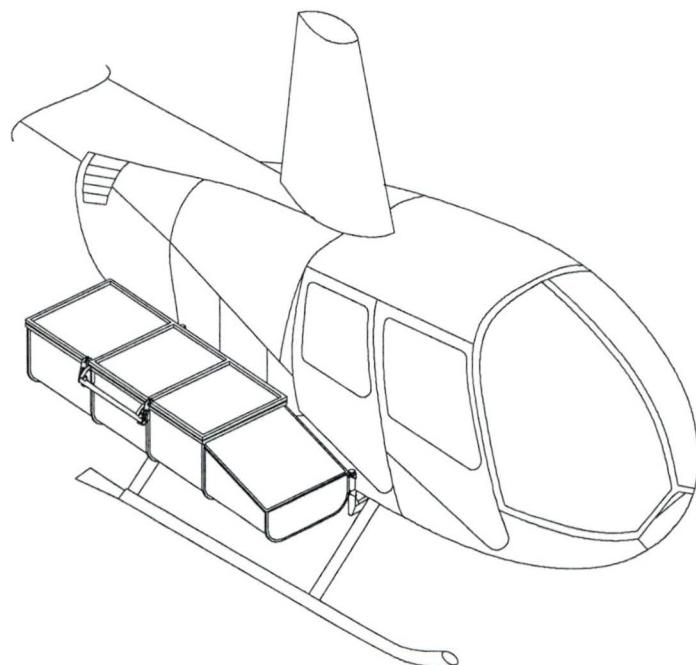


Figure 0.1 – Robinson R44 Cargo Basket Installation

## CHAPTER 4 - AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Cargo Basket.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the rotorcraft Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of Quick Release Cargo Basket.

#### *Daily Inspection*

1. Inspection Area: Basket
  - a) Inspect the basket attachment to the beams for condition and security. Ensure quick release mechanism is completely extended, flush with the outboard surface of the beam.
  - b) Inspect latching of the lid for correct operation. If basket is bent inward the lid will close but may not latch.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Basket
  - a) Visually inspect tube-to-tube welds and mesh-to-tube welds for cracks, corrosion or other damage.
  - b) Visually inspect basket mesh for damage.

#### *Special Inspections*

Following a hard landing inspect the Quick Release Cargo Basket installation in accordance with the 100 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

1. Basket
  - a) Repair Basket in accordance with AC43.13-1B, Chapter 4, Section 5, Welding, as required.
  - b) Basket is fabricated from the following materials:

Attachment Hoops:	1" square steel tube and/or ½" square steel tube
Lid and Rim:	¾" square steel tube
Frames:	½" square steel tube
Mesh:	¾" 16 ga. (0.040") expanded steel mesh
  - c) Touch up with polyurethane paint as required following repairs.

### **5-3 PROTECTIVE TREATMENT INFORMATION**

#### **1. Cargo Basket**

The cargo basket is supplied powder coated white. If the powder coat is damaged, touch up with white polyurethane paint.

## CHAPTER 11 – MARKINGS AND PLACARDS

The following markings and placards are used with the Quick Release Cargo Basket Installation in the locations noted:

- a) Located on basket lid:



RIGHT HAND BASKET



LEFT HAND BASKET

**CHAPTER 25 – EQUIPMENT AND FURNISHINGS****SECTION 50 – CARGO COMPARTMENTS****25-1 BASKET REMOVAL**

1. Pull knob at bottom end of aft beam and lift basket until attachment fittings are free of keyways. Rest aft end of basket on ground.
2. Slide basket forward and lift attachment fitting out of keyway in forward beam.

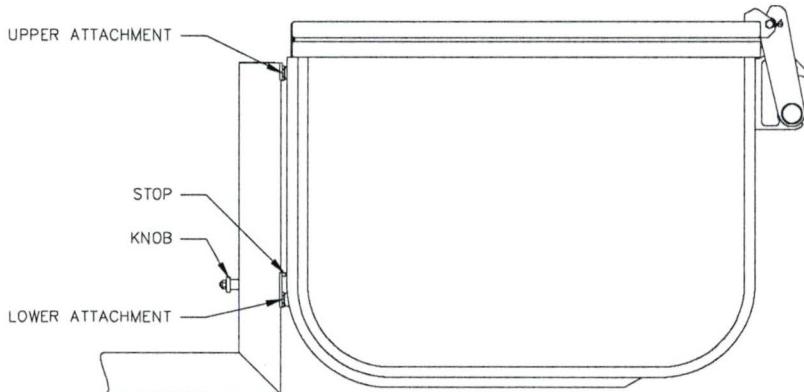


Figure 25.1 – Aft Attachment Features

**25-2 BASKET INSTALLATION**

Installation of the Quick Release Mounting Provisions is required prior to installing the Quick Release Cargo Basket. Refer to ICA906.91.

1. At forward end of basket, set upper attachment fitting into keyway in forward beam. Allow basket to hang from fitting, rest aft end on ground.

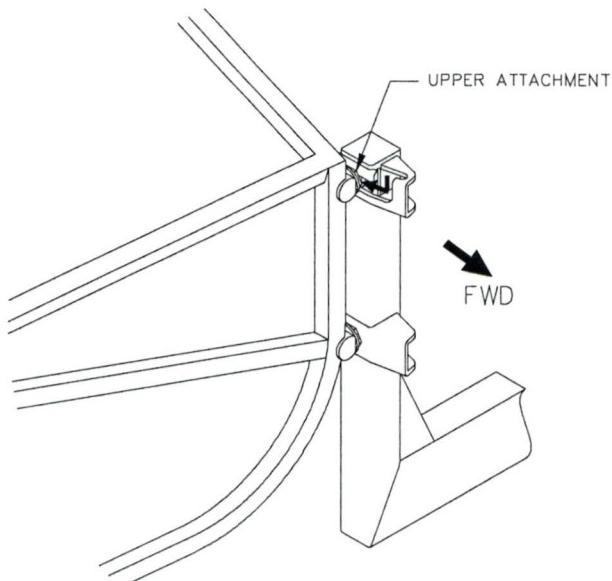
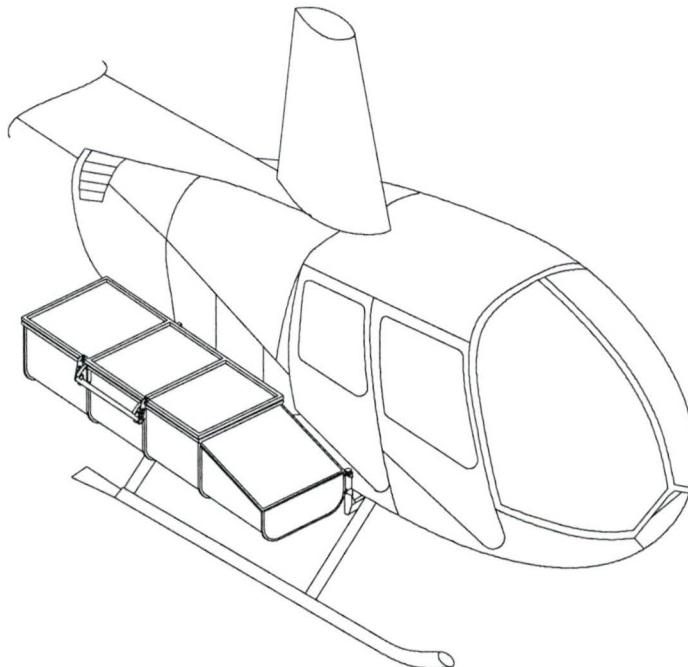


Figure 25.2 – Basket Attachment Features

2. Raise aft end of basket to aft beam, sliding basket aft, and lift until lower attachment fitting hits stop over keyway.
3. Push fitting into lower keyway, ensure top fitting enters top keyway, and slide basket down until locked.

### 25-3 WEIGHT AND BALANCE



Quick Release Cargo Basket: Configuration 90601-01

Standard P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
90610-01-XX	Basket	41.8	112.4	4698.3	34.4	1437.9
90602-01-XX	Quick Release Mounting Provisions	11.6	101.3	1174.5	7.2	84.0
<b>90601-01-XX</b>	<b>Basket Installation</b>	<b>53.4</b>	<b>110.0</b>	<b>5872.8</b>	<b>28.5</b>	<b>1521.9</b>
Maximum Cargo (centred in basket)		175.0	112.4	19670.0	34.4	6020.0

Metric P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	arm mm	moment mm-kg
90610-01-XX	Basket	18.9	2855	53999	874	16526
90602-01-XX	Quick Release Mounting Provisions	5.3	2552	13396	184	965
<b>90601-01-XX</b>	<b>Basket Installation</b>	<b>24.2</b>	<b>2789</b>	<b>67394</b>	<b>724</b>	<b>17491</b>
Maximum Cargo (centred in basket)		80.0	2855	228397	874	69901

Note: -XX indicates side. -01 is RH, -02 is LH. Lateral arm is negative on LH side.

**OPTIONS**

The following weight and balance is for optional configurations of the basket

Standard P/N	Description	Weight	Longitudinal		Lateral	
		lb	arm in	moment in-lb	arm in	moment in-lb
70408-01	Hangar Wheel	0.8	149.0	119.2	31.1	24.9

Metric P/N	Description	Weight	Longitudinal		Lateral	
		kg	arm mm	moment mm-kg	arm mm	moment mm-kg
70408-01	Hangar Wheel	0.4	3785	1370	790	286

**25-4 STRUCTURAL FASTENER DATA**

Refer to Robinson R44 Maintenance Manual, section 1.300 for torque values not listed in this ICA.



## INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA 906.91

### QUICK RELEASE MOUNTING PROVISIONS

#### ROBINSON R44, R44 II

##### Preface

These Instructions for Continued Airworthiness shall be included in the Robinson R44 Maintenance Manual when the External Attachment Provisions are installed in accordance with AERO Design Ltd. Document Control List DCL906-1, Revision 0, or later approved revision.

The information contained herein supplements the information in the basic Maintenance Manual. For Maintenance practices and procedures not contained in these Instructions for Continued Airworthiness refer to the basic Maintenance Manual and its approved supplements.

Revision 0  
Date: 22 September 2010

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AERO Design Ltd.  
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## **RECORD OF REVISIONS**

## **LIST OF EFFECTIVE PAGES**

List of Revisions Revision 0 (Original Issue) 22 September 2010

## List of Effective Pages

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## CHAPTER 0 – INTRODUCTION

### 0-1 SCOPE

The following Instructions for Continued Airworthiness (ICA) satisfy the requirements of 14 CFR 27.1529, and provide the information necessary to complete the on-going maintenance and inspections required for the Robinson R44 Series embodying the External Attachment Provisions as described herein.

### 0-2 DEFINITIONS AND ABBREVIATIONS

- ICA - Instructions for Continued Airworthiness  
LH - Left Hand  
RH - Right Hand

### 0-3 DISTRIBUTION

Copies of this ICA and amendments shall be distributed to all known purchasers of the External Attachment Provisions. Requests for a copy may be made in writing to:

AERO Design Ltd.  
2013 39<sup>th</sup> Avenue N.E.  
Calgary, Alberta  
T2E 6R7  
Fax: 403-250-8333  
Email: [info@aerodesign.ca](mailto:info@aerodesign.ca)

Any changes will be sent to Transport Canada. All changes will be recorded in the Record of Revisions page at the front of this document.

### 0-4 COMPATIBILITY

Prior to incorporating this modification, the installer shall establish that the inter-relationship between this change and any other modification(s) incorporated will not adversely affect the airworthiness of the helicopter.

This installation is NOT compatible with fixed or pop-out float installations.

### 0-5 GENERAL DESCRIPTION

Quick Release Mounting Provisions are a pair of beams mounted to fittings attached to the cross tube elbows under the helicopter. The Quick Release Mounting Provisions allow the installation of various equipment, such as cargo baskets.

The fittings are aluminum clamps with a mounting point for the beam. The clamp arrangement allows for variability in the cross tube elbows, and allows the cross tube to flex without stiffening due to the beam.

The beams are steel tubing which stick out from the side of the helicopter, and have a vertical tube with keyways in the outboard face to mount various pieces of equipment such as cargo baskets and flight steps. The quick release mechanism is built into the down tube.

## CHAPTER 4 – AIRWORTHINESS LIMITATIONS

### *Transport Canada*

The Airworthiness Limitations section is approved by the Minister and specifies maintenance required by any applicable airworthiness or operating rule unless an alternative program has been approved by the Minister.

### *FAA*

The Airworthiness Limitations section is FAA approved and specifies maintenance required under Sections 43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

No additional airworthiness limitations have been imposed due the installation of the Quick Release Mounting Provisions.

## CHAPTER 5 – INSPECTION REQUIREMENTS

### 5-1 INSPECTION SCHEDULE

Continued airworthiness is contingent upon compliance with the following inspection items. These items shall be completed in conjunction with the Robinson R44 Series Maintenance Inspection schedule, or other approved program, or upon removal and replacement of any component of the Quick Release Mounting Provisions.

#### *100 Hour or Annual Inspection*

1. Inspection Area: Landing Gear Cross Tube Elbows
  - a) Visually inspect attachment clamp fittings in situ for cracks, corrosion or other damage.
  - b) Visually inspect hardware securing attachment fittings to cross tube elbows in situ for security and damage.
2. Inspection Area: Beams
  - a) Visually inspect beams for cracks, corrosion or other damage.
  - b) Visually inspect bolts attaching beams to external attachment provisions for security and damage.
  - c) Inspect rubber hose at clamp fitting for condition.

#### *Special Inspections*

Following a hard landing inspect the Quick Release Mounting Provisions installation in accordance with the 100 hour or annual inspection listed above.

### 5-2 DAMAGE LIMITS / REPAIR INSTRUCTIONS

If damage is found in the inspections above, repair in accordance with the instructions below.

#### 1. Attachment Fittings

DO NOT REPAIR DAMAGE TO FITTINGS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any surface up to 0.030" deep and 0.125" wide may be dressed out to a smooth contour. Touch up paint as required.
- b) Cracking on any surface is unacceptable.
- c) Do not repair elongation of provision bolt hole (AN6 bolt). Hole is nominally 0.386" (W drill) in diameter.
- d) Touch up with polyurethane paint as required following repairs.

#### 2. Beams

DO NOT REPAIR DAMAGE TO BEAMS IF BEYOND THE LIMITS BELOW.

- a) Nicks and/or gouges on any face up to 0.015" deep and 0.125" wide may be dressed out to a smooth contour.

- b) Critical keyway dimensions on the aft beam are shown in Figure 5.1. The forward beam does not have a critical dimension. Attempt to insert 15/32 drill shank into bottom end of slots. If drill can be inserted, slot is worn beyond limit.

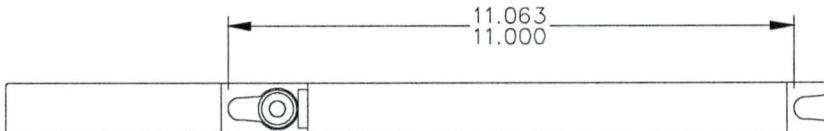


Figure 5.1 – Critical Keyway Dimensions (Aft Beam)

- c) Touch up with polyurethane paint as required following repairs.
- d) Rubber hose on attachment end of beams shall be replaced if it shows signs of cracking, hardening, or other deterioration. Replace with  $\frac{3}{4}$ " ID commercial heater hose, 1" long.

### 5-3 PROTECTIVE TREATMENT INFORMATION

#### 1. Attachment Fittings

The Attachment Fittings are supplied painted white. If the paint is damaged, touch up with polyurethane paint.

#### 2. Beams

The Beams are supplied powder coated white. If the powder coating is damaged, touch up with polyurethane paint.

## CHAPTER 25 – EQUIPMENT AND FURNISHINGS

### 25-1 QUICK RELEASE MOUNTING PROVISIONS REMOVAL

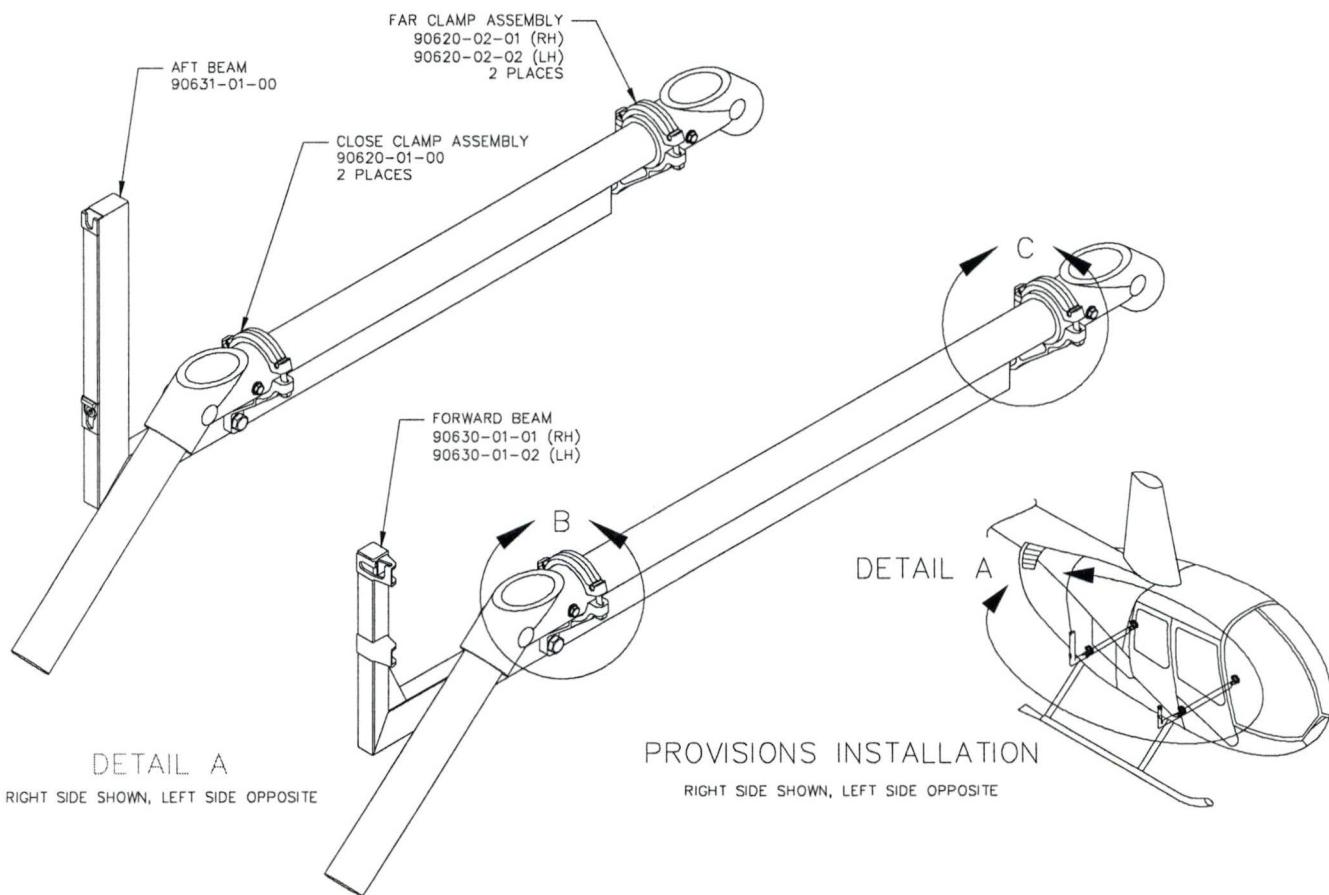


Figure 25.1 – Quick Release Mounting Provisions

1. Remove AN6-21A Bolt, AN960-616 Washers and MS21044N6 Nut attaching Forward Beam (90630-01-01 RH or -02 LH) to Close Clamp Assembly. Remove Forward Beam by pulling out of Far Clamp Assembly. Ensure Rubber Hose remains on Forward Beam.
2. Remove AN6-21A Bolt, AN960-616 Washers and MS21044N6 Nut attaching Aft Beam (90631-01-00) to Close Clamp Assembly. Remove Aft Beam by pulling out of Far Clamp Assembly. Ensure Rubber Hose remains on Aft Beam.
3. Loosen BH00182A4 Self Aligning Nut on T-Bolt on Clamp Assembly. Clamp Assembly may be moved off elbow to centre section of cross tube for easier access.
4. Remove MS21042L4 Nut, and AN960-416 Washer from AN4 bolt on Clamp Assembly.
5. Remove Clamp Assembly from cross tube.

6. Repeat steps 3 - 5 for remaining Clamp Assemblies.
7. Forward Cross Tube Cover (C475-5) and Strut Fairings (C082-XX) may be installed in accordance with the Robinson R44 Maintenance Manual.

## 25-2 QUICK RELEASE MOUNTING PROVISIONS INSTALLATION

Refer to Figure 25.1.

1. Remove Strut Fairings (C082-XX) on the side of the helicopter that the equipment (cargo basket, etc.) will be installed on. Refer to R44 Maintenance Manual, Section 5.410.
2. Remove Forward Cross Tube Cover (C475-5). Leave Channels (C388-3) in place.
3. Remove MS21042L4 Nut and AN960-416 Washer from AN4-12A Bolt on Close Clamp Assembly (90620-01-00). Loosen BH00182A4 Self-Aligning Nut on FT4F-175H T-Bolt if required. Locate Clamp Assembly on forward cross tube elbow, with beam mounting lug on aft side, approximately 0.25" from inboard edge. Install AN960-416 Washer and MS21042L4 Nut on AN4-12A Bolt. Tighten nuts enough to prevent the clamp from slipping on the elbow. Repeat for aft cross tube. See Figure 25.2.

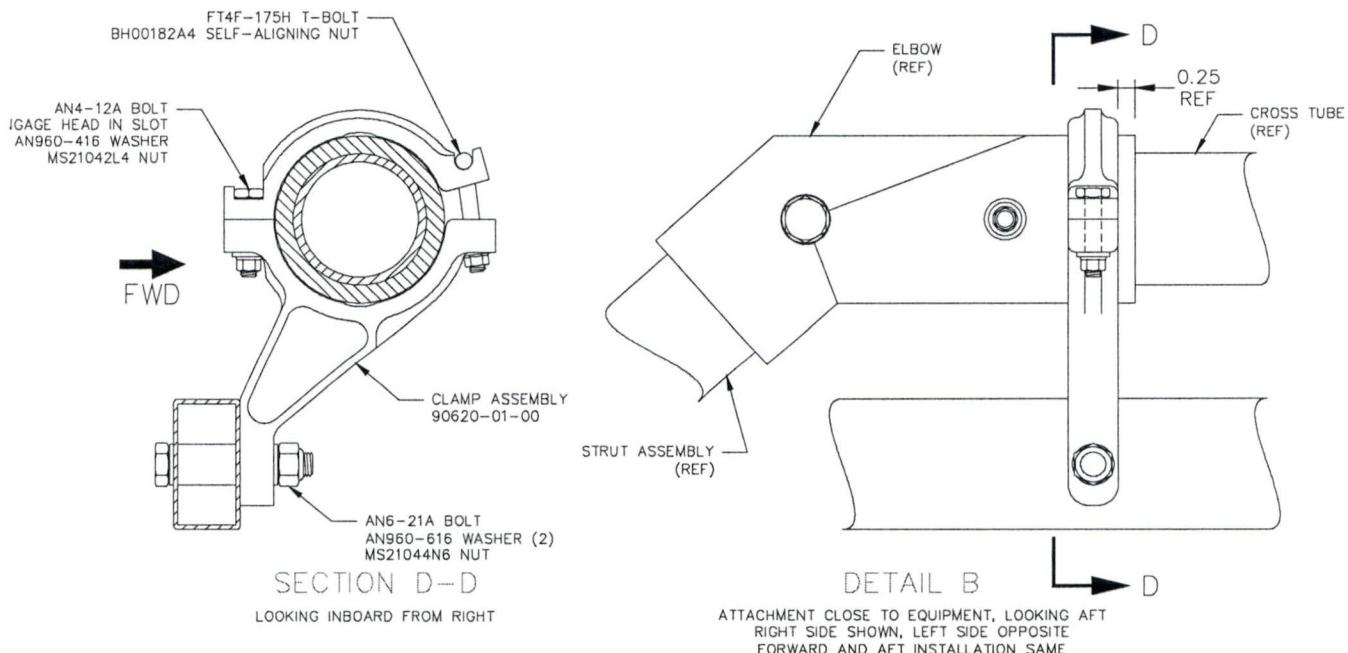


Figure 25.2 – Clamp Assembly Installation (Close Side)

4. Remove MS21042L4 Nut and AN960-416 Washer from AN4-12A Bolt on Far Clamp Assembly (90620-02-01 RH or -02 LH). Loosen BH00182A4 Self-Aligning Nut on FT4F-175H T-Bolt if required. Locate Clamp Assembly on forward cross tube elbow with beam mounting lug on aft side, approximately 0.25" from inboard edge. Install AN960-416 Washer and MS21042L4 Nut on

AN4-12A Bolt. Tighten nuts enough to prevent the clamp from slipping on the elbow. Repeat for remaining aft cross tube. See Figure 25.3

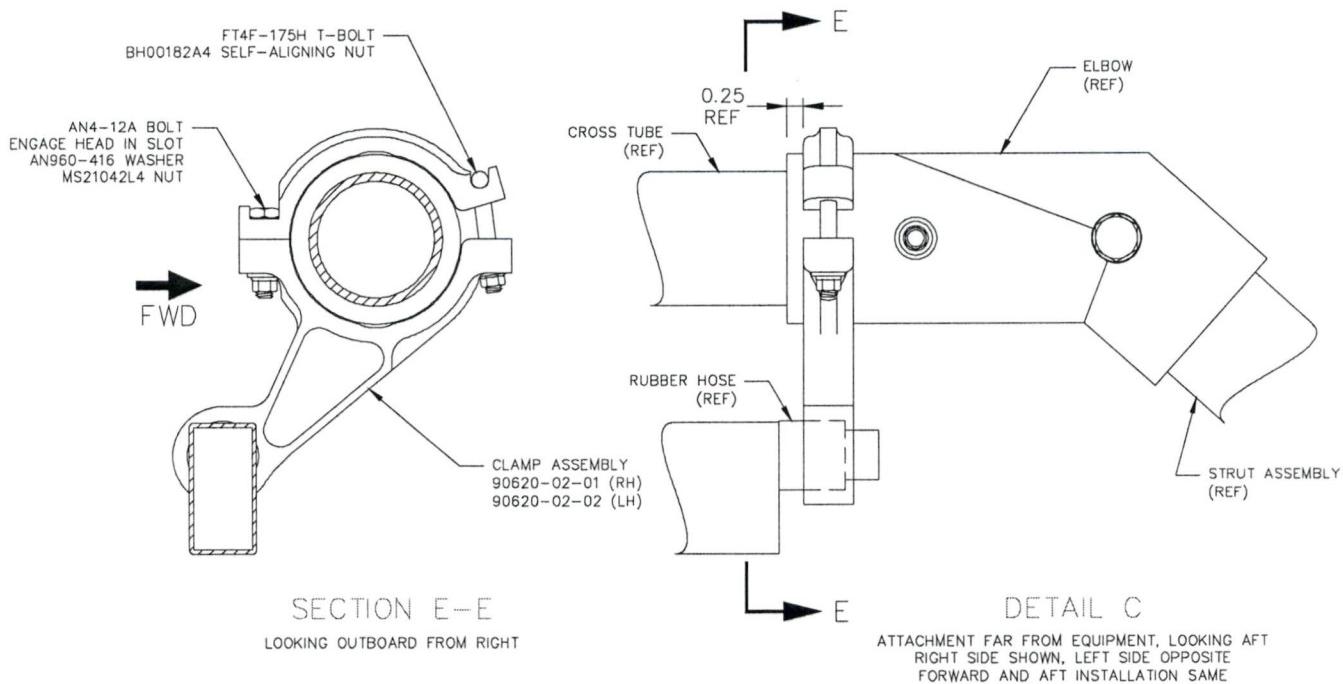


Figure 25.3 – Clamp Assembly Installation (Far Side)

5. Remove Rubber Hose from Forward and Aft Beams and insert into Far Clamp Assemblies.
6. Slide pin on far end of Forward Beam Assembly (90630-01-01 RH, -02 LH) into rubber hose in Far Clamp Assembly on forward cross tube. Rubber hose may be lubricated with soap and water if required. Insert AN6-21A Bolt with AN960-616 Washer through bushing in Forward Beam into hole in Close Clamp Assembly. Shift clamps inboard or outboard as required, maintain approximately equal distance from clamp to edge of elbow. Install AN960-616 Washer and MS21044N6 Nut on bolt. Torque AN6 bolt to 160-190 in-lbs.
7. Slide pin on far end of Aft Beam Assembly (90631-01-00) into rubber hose in Far Clamp Assembly on aft cross tube. Rubber hose may be lubricated with soap and water if required. Insert AN6-21A Bolt with AN960-616 Washer through bushing in Aft Beam into hole in Close Clamp Assembly. Install AN960-616 Washer and MS21044N6 Nut on bolt. Torque AN6 bolt to 160-190 in-lbs.
8. Adjust beams as to be parallel to cross tubes with a 1" gap between the beam and cross tube. Rotate the far clamp only to adjust for parallel, then rotate both clamps together to attain 1" gap. Loosen clamps as required, retighten after.
9. Torque bolts on Clamp Assemblies to 50-70 in-lbs.

## 25-3 BILL OF MATERIALS

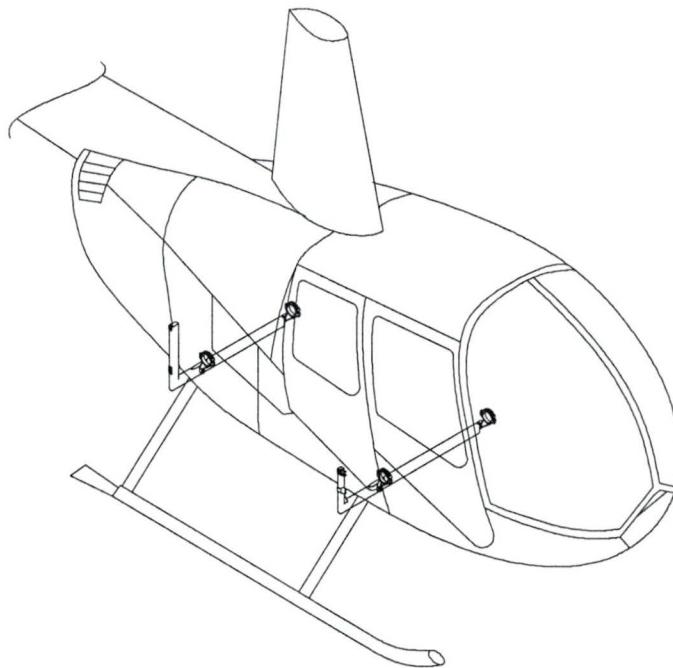


Figure 25.4 – Attachment Provisions Installation

Qty.	Part Number	Description
1	90602-01-01	Attachment Provisions Installation – RH
1	90602-01-02	Attachment Provisions Installation – LH
.2	90620-01-00	Clamp Assembly (Close)
.2	90620-02-01	Clamp Assembly (Far, RH)
.2	90620-02-02	Clamp Assembly (Far, LH)
.1	90630-01-01	Forward Beam Assembly (RH)
.1	90630-01-02	Forward Beam Assembly (LH)
.1	90631-01-00	Aft Beam Assembly
.2	AN6-21A	Bolt
.2	AN960-616	Washer
.2	MS21044N6	Nut

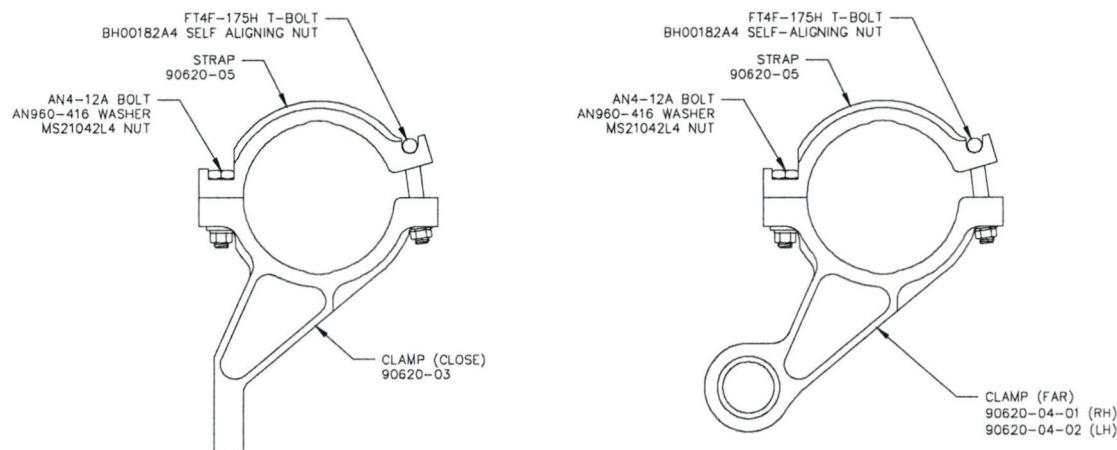
90620-01-00 CLAMP ASSEMBLY  
(CLOSE)90620-02-XX CLAMP ASSEMBLY  
(FAR)

Figure 25.5 – Clamp Assemblies

Qty.	Part Number	Description
<b>2</b>	<b>90620-01-00</b>	<b>Clamp Assembly (Close)</b>
. 1	90620-03	Clamp (Close)
. 1	90620-05	Strap
. 1	AN4-12A	Bolt
. 1	AN960-416	Washer
. 1	MS21042L4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self-Aligning Nut
<b>2</b>	<b>90620-02-01</b>	<b>Clamp Assembly (Far, RH)</b>
. 1	90620-04-01	Clamp (Far, RH)
. 1	90620-05	Strap
. 1	AN4-12A	Bolt
. 1	AN960-416	Washer
. 1	MS21042L4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self-Aligning Nut
<b>2</b>	<b>90620-02-02</b>	<b>Clamp Assembly (Far, LH)</b>
. 1	90620-04-02	Clamp (Far, LH)
. 1	90620-05	Strap
. 1	AN4-12A	Bolt
. 1	AN960-416	Washer
. 1	MS21042L4	Nut
. 1	FT4F-175H	T-Bolt
. 1	BH00182A4	Self-Aligning Nut

## 25-4 WEIGHT AND BALANCE

Removal of beams leaving clamps in place is an approved configuration for flight. Two weight and balance configurations are required: Clamps only; and Beams and Clamps.

P/N	Description	Weight (lbs)	Longitudinal		Lateral	
			Arm (in)	Moment (in-lbs)	Arm (in)	Moment (in-lbs)
<b>RH Provisions Installation</b>						
90620-XX-XX	Clamp Assemblies	1.6	99.7	159.5	-0.7	-1.0
90630-01-01	Forward Beam Assembly	5.0	74.2	371.0	8.3	41.5
90631-01-00	Aft Beam Assembly	5.0	128.8	644.0	8.7	43.5
90602-01-01	RH Provisions Installation (Total)	11.6	101.3	1174.5	7.2	84.0
<b>LH Provisions Installation</b>						
90620-XX-XX	Clamp Assemblies	1.6	99.7	159.5	0.7	1.0
90630-01-02	Forward Beam Assembly	5.0	74.2	371.0	-8.3	-41.5
90631-01-00	Aft Beam Assembly	5.0	128.8	644.0	-8.7	-43.5
90602-01-02	LH Provisions Installation (Total)	11.6	101.3	1174.5	-7.2	-84.0

P/N	Description	Weight (kg)	Longitudinal		Lateral	
			Arm (mm)	Moment (mm-kg)	Arm (mm)	Moment (mm-kg)
<b>RH Provisions Installation</b>						
90620-XX-XX	Clamp Assemblies	0.7	2532	1833	-17	-12
90630-01-01	Forward Beam Assembly	2.3	1885	4264	211	477
90631-01-00	Aft Beam Assembly	2.3	3226	7298	221	500
90602-01-01	RH Provisions Installation (Total)	5.3	2552	13396	184	965
<b>LH Provisions Installation</b>						
90620-XX-XX	Clamp Assemblies	0.7	2532	1833	17	12
90630-01-02	Forward Beam Assembly	2.3	1885	4264	-211	-477
90631-01-00	Aft Beam Assembly	2.3	3226	7298	-221	-500
90602-01-02	LH Provisions Installation (Total)	5.3	2552	13396	-184	-965

## 25-5 STRUCTURAL FASTENER DATA

Refer to Robinson R44 Maintenance Manual, section 1.300 for torque values not listed in this ICA.

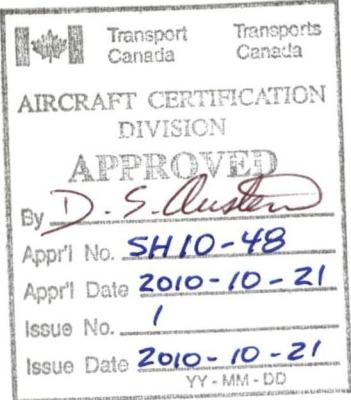
# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
90620	Clamp Assemblies	0
90630 90631	Forward Beam Assembly Aft Beam Assembly	0 0
<b>ENGINEERING DOCUMENTS</b>		
ER906.01 FTP906.03	Engineering Report Flight Test Report	0 0
<b>APPROVAL:</b>		
 <p>The stamp is rectangular with a double-line border. Inside, there is a small Canadian flag icon at the top left. To its right, the words "Transport Canada" and "Transports Canada" are written vertically. Below this, in a larger font, is "AIRCRAFT CERTIFICATION DIVISION". Underneath that, the word "APPROVED" is printed in bold capital letters. A handwritten signature of "D. S. Austin" is written over the word "APPROVED". Below the signature, the text "Appr'l No. SH10-48" is written. Underneath that, "Appr'l Date 2010-10-21" is written. At the bottom, "Issue No. 1" is written, followed by "Issue Date 2010-10-21" and "YY - MM - DD".</p>	ORIGINAL DATE: 23 September 2010 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>  <b>Robinson R44, R44 II</b> <b>Quick Release Mounting</b> <b>Provisions Fabrication</b>
		Rev. 0
	<b>DCL906-11</b>	<b>0</b>

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
90610	Basket Assembly	0
90611	Basket Body Assembly	0
90612	Lid Assembly	0
90621	Aft Attachment Hoop	0
90622	Forward Attachment Hoop	0
90627	Placard	0
69823	Lug	1
49210	Hoop	1
49215	Spacer	0
49216	Spacer	0
84255	Handle Assembly	0
84261	Handle Bar Assembly	0
84262	Handle Bracket Assembly	0
84265	Handle Lever	1
84267	Handle Bracket	0
84272	Bushing	0
36273	Lid Bracket	1
36274	Bushing	2
36275	Bushing	3
36277	Handle Bar	0
36278	Spring	2
36280	Brace Assembly	2
<b>ENGINEERING DOCUMENTS</b>		
ER906.01	Engineering Report	0
FTP906.03	Flight Test Plan/Report	0
<b>APPROVAL:</b>		
 <p>The stamp is rectangular with a double-line border. Inside, there is a small Canadian flag icon. The text "Transport Canada" is on the left and "Transports Canada" is on the right. Below this, it says "AIRCRAFT CERTIFICATION DIVISION". A handwritten signature "D. S. Cluster" is over "APPROVED". Below the signature, it says "By" and has a handwritten signature. There are several lines for serial numbers and dates, all filled in with blue ink.</p>	ORIGINAL DATE: 23 September 2010 REVISION DATE:  SHEET 1 OF 1	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333
		<b>Robinson R44, R44 II</b> <b>Quick Release Cargo Basket</b> <b>Basket Assembly</b>
		Rev. <b>0</b>
	<b>DCL906-12</b>	

# DOCUMENT CONTROL LIST

DOCUMENT NO.	DOCUMENT CONTENT	REVISION
<b>FABRICATION DOCUMENTS</b>		
70401	Open Forward End Modification (Bell 206L/407 Fixed and McDonnell Douglas MD600N Quick Release Only)	1
70402	Lid Door Modification	1
70403	Auxiliary Latch Modification	3
70404	Open Forward End Modification (Bell 206L/407 Quick Release Only)	1
70405	Lid Step Modification	2
70406	Open Forward End Modification (Eurocopter AS350/AS355 and Bell 206B Quick Release Only)	1
70407	Open Forward End Modification (Eurocopter EC135 Quick Release Only)	0
70408	Installation, Hanger Wheel	0
70428	Assembly, Hanger Wheel	0
70438	Parts, Hanger Wheel	0
<b>ENGINEERING DOCUMENTS</b>		
ER704.02	Engineering Report	0
<b>APPROVAL:</b>		
 <p>Transport Canada AIRCRAFT CERTIFICATION DIVISION <b>APPROVED</b> By <u>D. S. Austin</u> App'l No. <u>SH10-48</u> App'l Date <u>2010-10-21</u> Issue No. <u>1</u> Issue Date <u>2010-10-21</u> YY - MM - DD</p>	ORIGINAL DATE: 10 May 2006 REVISION DATE: April 29, 2010	<b>AERO DESIGN LTD.</b> 2013 – 39 <sup>th</sup> Ave NE, Calgary, Alberta, T2E 6R7 Ph. (403) 250-8027 Fax. (403) 250-8333
	SHEET 1 OF 1	<b>Cargo Basket Modifications</b>
	<b>DCL704</b>	Rev. <b>6</b>